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1941 – 1991

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5 November 1991

Germany, East Europe Plan Joint Fiber-Optic Network

91MI0569X Coburg OPTOELEKTRONIK MAGAZIN in German Aug 91 p 188

[Text] The telecommunications companies of Poland, Czechoslovakia, Hungary, and the Federal Republic of Germany are planning a joint optical fiber network. Deutsche Bundespost Telekom (DBT) hosted a conference in Bonn on 18 and 19 December 1990, at which a joint declaration of intent on its implementation was signed. All the parties involved expressed their great common interest in close cooperation in this sector.

The project is called the Trans-Europe-Line (TEL) and, starting from Frankfurt/Main, will pass through the south of the former GDR to Warsaw, branching off at Gorlitz via Prague and Bratislava to Budapest.

The TEL project will substantially improve the telecommunications infrastructure between eastern and western Europe, and is essential to the economic development of the countries concerned.

The optical fiber network initiated by TELEKOM will be able to transmit simultaneously several tens of thousands of telephone conversations or their equivalent in data flows. It is hoped to extend the Frankfurt/Main to Warsaw link as far as Moscow, and discussions to this effect are already under way.

The total length of the TEL cable line, including the Moscow link, will amount to some 3,200 km, and the overall investment for the TEL project is estimated at around 200 million German marks. It is scheduled for completion by the end of 1993.

Netherlands Telecom Firm Seeks New Service With Japan

OW2510094791 Tokyo KYODO in English 0853 GMT 25 Oct 91

[Text] Tokyo, Oct. 25 KYODO—The president of a Dutch telecommunications company said Friday his company plans to hold talks with Japanese telecommunications companies on opening a private communications service between the two countries.

The service includes a virtual private network (VPN), which enables customers to use public communications networks virtually as private networks by dialing private numbers registered in advance.

Wim Dik, president of the Royal PTT Netherlands, also expressed hope in an interview with KYODO NEWS SERVICE that Japan will open its telecommunications market to foreign competition, noting that the Netherlands has already liberalized its telecommunications market, except for voice communications.

Dik is in Japan to open the Tokyo representative office of PTT Telecom Netherlands, a division of his company.

Among Japanese telecommunications companies, KDD [Kokusai Denshin Denwa, the international telegraph and telephone company] already offers a VPN service with the United States and Britain under the name Virnet.

International Telecom Japan Inc. and International Digital Communications Inc. say they plan similar international services.

ROK's Samsung Signs Deal for TDX Plant in USSR

SK0411084791 Seoul YONHAP in English 0646 GMT 4 Nov 91

[Text] Seoul, Nov. 4 (YONHAP)—Samsung Electronics of South Korea and Automatic Telephone Exchange [ATE] of the Soviet Union signed a joint venture agreement over the weekend to set up a TDX (time division exchange) factory with an annual capacity of 1.5 million subscriber lines in the Russian Republic, a Samsung spokesman said Monday.

He said the Samsung-ATE venture would turn out 3.75 million lines of TDXs between 1992 and 1996 and 15 million lines between 1997 and 2006. The project was capitalized at 38.22 million U.S. dollars, with Samsung putting up 46 percent, ATE 44 percent and 5 percent each for Soyuz and Sviaz. The factory will be in Pskov, 300 kilometers southwest of St. Petersburg.

Samsung had opened an experimental 2,000-line TDX switching system in the Suzdalskaya phone office of St. Petersurg, he said.

Russian President Boris Yeltsin and Korean Ambassador Kong No- myong talked by the phone in a test of the system.

EFE, ANDINA Sign Cooperation Agreement

PY2410165091 Madrid EFE in Spanish 2321 GMT 23 Oct 91

[Text] Madrid, 24 Oct (EFE)—The Peruvian news agency ANDINA and EFE today signed a cooperation agreement here whereby ANDINA will use EFE's technology to disseminate its news service through the EFE Atlantic Satellite.

EFE President Alfonso S. Palomares and ANDINA President Luis Grados Trinidad signed the agreement today during the official visit Peruvian President Alberto Fujimori is making to Spain. This is the first visit to Spain by a Peruvian president.

The agreement also includes EFE's commitment to cooperate in the modernization and automation of editing and broadcasting equipment at ANDINA's headquarters.

The agreement, which will last five years, will be extended for similar periods if no rescission notice is made by either party one year in advance of the expiration date.

EFE and ANDINA recognize the significance of the Spanish language as a tool for disseminating information and for strengthening cultural ties among Ibero-American countries. Thus, they state their decision "to preserve the purity of the language and to contribute to its improvement."

To this end, EFE offers ANDINA the services of its Spanish Urgent Department and its linguist advisers, who are members of the Spanish Academy.

ANDINA seeks to strengthen its cooperation with EFE to modernize its technology and to increase the dissemination of its news services. The agreement also will be instrumental in disseminating EFE's international news services in Peru.

GHANA

New Test Transmission Announced

*AB2910132991 Accra Ghana Broadcasting Corporation
Radio Network in English 2000 GMT 25 Oct 91*

[Text] The Ghana Broadcasting Corporation announces to the information of viewers in Accra-Tema area that it has started test transmission of a new satellite network from a station at Ajangote in Greater Accra. The transmission begins from 0900 AM to 0900 PM daily, except otherwise announced, and it can be received on channel 26. The programs during the trial period will come mainly from Cable Network News and that is CNN.

The mode of application and subscription fees will be announced after the test transmission for [those] interested to apply to the corporation.

IVORY COAST

New TV Station Director Interviewed on Plans

*AB0111205491 Abidjan FRATERNITE MATIN
in French 31 Oct-3 Nov 91 p 15*

[Interview with Mr. Serge Pacome Aoulou, director of Channel Two of Ivory Coast Television, TV2, by O. M. Abiali on the start of TV2; place and date not given]

[Text] [Abiali] Mr. Director, TV2 takes off tomorrow, 1 November. Are you ready?

[Aoulou] We are more than ready considering the fact that we have had our programs prepared for some time now. It is true that we have not received all the elements that we would have wished to receive.

Indeed, we have shown imagination in dealing with the most urgent requirements. I believe that TV2 is ready both in terms of programs and personnel, and also on the part of the authorities who made it possible for our channel to exist.

[Abiali] Do you have the means of achieving your ambitions?

[Aoulou] You know, I always feel quite angry when people talk to me about means. This is because I think what is wrong with Africa stems from the fact that we have always waited for resources with folded arms, sitting and scanning the skies to see if by a magical chance, some means will fall from above. No, it is we who have to create the means. We must generate them by using the little that is given to us in such a way that we can succeed in promoting ourselves and in actually doing what is required of us, that is, accomplishing our mission.

Television today can generate and create its own means. All that is needed is a bit of determination and imagination. And then, each of us must be guided by faith. The means? There is the heritage of the first channel: It is a common heritage, which we are going to use together in the first instance.

We will have the intelligence of knowing how to share the equipment, and to work to manage the means, and I assure you that if each of us puts in the required effort, the means will follow, because we should not expect everything from the state.

The time of the providential state is over. Today, it is we the men of this state who must ensure that facilities are made available to us everyday. I believe that we will have the means, and even if we do not have them, we will go and get them!

[Abiali] What will be the exact coverage area of your channel?

[Aoulou] In the first instance, our channel will cover Abidjan and 75 kilometers beyond. What is very sure is that TV2 will spread very quickly, because we have the possibility today of using optical fiber installed by the Posts and Telecommunications Service with the support of the authorities to establish a system that will enable us to penetrate the interior very quickly. But before going on to that stage, we will have already given Abidjan and its environs a high quality program.

The people who live in Abidjan have their villages in the interior and most of them leave for these villages on Friday. If we let them become used to a good quality program, and if they get used to tuning in to TV2, it is certain that they will keep this reflex, even while they are in their villages. And when they realize that they cannot have TV2 in the interior, I am sure that they will help us to get into the interior as quickly as possible. That is why we have the duty to propose a program of high quality. And this high-quality program is the catalyst that will ensure that TV2 is brought to all Ivorians. Besides that, it must not be forgotten that the fact of presently being in a 75 kilometer-range around Abidjan does not handicap us at all, as we are a commercial station.

As a result, we are counting on the sale of our products to grow. It happens that more consumers are based in the region that we cover. In any case, those that have the greatest purchasing power live in our present coverage area and constitute 77 percent of Ivorian consumers. As such, it is almost certain that we are going to be in touch with the biggest proportion of consumers.

[Abiali] Does your program include political debates? How is that going to be effected?

[Aoulou] We call the political debate, "Dossier of Time," and it will feature a number of people. I can give an example: It will not be on a fixed topic. For example, there is a lot of talk now on privatization. Privatization for what, how, where will it stop, and what will Ivory Coast gain from it? Those who initiated this action will be invited to the stage, or at least one of them, and he will face me as the presenter of the program, and other

journalists of various tendencies. I expect that they will ask the questions that Ivorians have been asking.

Those journalists will explore the terrain and arrive at a conclusion, which I believe will satisfy everybody. In the audience, however, there will be a surprise guest unknown to the main guest and the journalists. This person will also be a specialist on the subject and be somewhat unconnected with those who initiated the topic. He will speak for only 10 minutes before the end of the program to give his point of view.

[Abiali] Will the press review that you have programmed deal also with the content of the opposition press?

[Aoulou] Absolutely, Ivory Coast today is made up of all sensibilities. Giving the possibility to our friends from the so- called opposition press or even the so-called independent press is perhaps a way of helping them to perceive things with a little more measure. It is also the opportunity to get them to give up on sensationalism, something which helps no one and preoccupies low-grade journalists. Often when one reads a newspaper with enticing headlines but which lacks articles of substance, one is bound to observe that it is a gossip paper. So, during the television news, we will have a press review that will be presented by Jesus Kouassi Yobouet and will be called "Multi-Medias."

I simply wish to ask the authorities to help by writing and calling us, not to congratulate us but rather to say what is wrong and denounce our shortcomings, to address our unsatisfactory attitudes and behavior. I think that several letters and calls will keep us on our toes and truly at the service of Ivorians.

I repeat that it is a public channel that has been created at the authorities' initiative, but we will make sure that all Ivorians feel concerned.

Lastly, I reassure all television viewers that no wild competition will occur with the first channel. On the contrary, we have a complementary action, but that must not let us forget that it is somehow competitive and that the competition must serve in particular to stimulate each of the two channels. That is how we will become adequately strong and well-trained.

MOZAMBIQUE

Germany Willing To Upgrade Radio Mozambique Standards

MB2710151091 Maputo Radio Mozambique Network in Portuguese 1030 GMT 27 Oct 91

[Text] The German Government has expressed its wish to finance a Radio Mozambique development project estimated at $20 million. Radio Mozambique Director General Manuel Tome has said in Chimoio that the money will be used to buy equipment, and for construction. Manuel Tome added that the project includes the improvement of Radio Mozambique's technical quality in order to reach international broadcasting standards.

Prospects Seen in Making of Telecom Equipment

[Report by Zhou Zhengping (0719 2973 1627) and Zhang Xuequan (1728 1331 0356): "Good Prospects Seen in Development of China's Manufacturing Industry in Telecommunications Equipment"]

[Text] Shanghai, 25 Oct (XINHUA)—The manufacture of telecommunications equipment has become the hottest industry for foreign investment in China.

It is learned that in the next ten years, China will have more than 2.5 million units of newly-installed stored-program-control telephones each year alone.

At present, Germany's Siemens, Japan's Fuji and NEC, as well as French, Italian, and U.S. transnational corporations involved in the manufacture of telecommunications equipment are discussing joint ventures with the cities of Guangzhou, Wuhan, Nanjing, Chongqing, Tianjin, and others, as well as with a number of enterprises belonging to to the Ministry of Machine-Building and Electronics Industry and the Ministry of Posts and Telecommunications.

Belgium's Bell Telephone Equipment Manufacturing Limited Company and the Dutch-U.S. ITT Network Limited Company have taken the lead in making investments, and have respectively set up the Shanghai Bell Telephone Equipment Manufacturing Limited Company and the Shanghai IT & T Telecommunications Equipments Limited Company. The Shanghai Bell Telephone Equipment Manufacturing Limited Company which boasts of investments totalling 100 million dollars can produce 900,000 units of stored-program-control telephone sets each year. Last year, the company, the first joint venture enterprise in China manufacturing telecommunications equipment, earned profits worth more than 100 million yuan. Meanwhile, the Shanghai IT&T Telecommunications Equipments Limited Company, which was formally launched in September this year, produces all kinds of digital, multiple-application, and fiber-optic transmission networks which are in great demand in China. Thus far, it has received orders worth 32 million dollars, far higher than the target of 14 million dollars laid down by the company's board of directors. In an interview with newsmen, He Yuwei, the company's assistant manager, said: Joint venture enterprises which meet China's industrial policy will always be very profitable.

Chinese governments and enterprises at all levels have reacted positively to the investment intentions of transnational corporations. It was learned that a number of enterprises with a fairly good foundation for production of telecommunications equipment have already been selected by the aforementioned cities as well as the Ministry of Posts and Telecommunication and the Ministry of Machine-Building and Electronics Industry as potential partners of foreign businesses. Sources in the manufacturing industry of telecommunications equipment in China revealed that even as China gives away part of the domestic market, it also hopes to import high and new technology on fiber-optic telecommunications from overseas. Consequently, foreign investors who are willing to offer more advanced technology will be given priority consideration in investment ventures.

Government To Increase Telecom Investment

[Text] Beijing, November 1 (XINHUA)—China has decided to double its investment in post and telecommunications industry during its Eighth Five-Year Plan (1991-95).

According to the ongoing National Conference on Post and Telecommunications Planning, China intends to increase its communications capacity by some 20 percent by the end of 1995.

The additional investment will come either from the central government or from funds collected by the Ministry of Posts and Telecommunications.

According to statistics, in the past 10 years China has built 54 post and telecommunications centers, 13 satellite ground stations, long-distance telephone exchanges capable of handling 94,000 lines, and over 3 million program-controlled telephone exchanges.

More than one million households applied for telephones—double the number of applications in 1989. However, many millions more are without telephones.

The ministry plans to have the telephone installation rate come to two percent on a national average, with over 10 percent in the provincial capital cities and more than 15 percent in Beijing, Tianjin, Shanghai and Guangzhou within five years. Telephone sets will increase from 12.7 million now to 29.9 million in five years.

According to an official of the Ministry of Posts and Telecommunications, China will use fibre optical cables, digital microwave communication cables and program-controlled telephone exchanges for its main telecommunications systems.

The state will also build 16,000 km of fibre optical cable lines to link 26 provincial capital cities and coastal regions, and construct an additional 12 satellite ground stations from 1991 to 1995.

The state will also put more investment in two fields: technical improvements in the Beijing, Shanghai and Guangzhou International Posts and Telecommunications Exporting Bureaus, and expanding telecommunications capacity with neighboring countries in bordering provinces and autonomous regions in the northeast, northwest and southwest regions and provinces.

High-Power Amp To Improve Satellite Communications

OW2910195291 Beijing XINHUA in English
1514 GMT 29 Oct 91

[Text] Shanghai, October 29 (XINHUA)—A high power amplification system developed by the No. 1 Research Institute under the Ministry of Posts and Telecommunications passed a ministry appraisal here today.

A ministry official said that the new system will eliminate the need for standby equipment at China's large ground satellite telecommunications stations, and will result in a considerable savings in construction costs.

The new amplification system includes a highly reliable main high power amplifier, a standby equipment with the automatic switching ability and a switch-over system.

The official said the system reaches world level standards of the mid-1980s. The success in developing the new system will promote the further development of satellite telecommunications in China.

Fiber-Optic Cable To Link Major Cities in South, East

HK3010050191 Beijing CHINA DAILY in English
30 Oct 91 p 1

[By staff reporter: "Cable Scheduled To Link Up Coastal Areas"]

[Text] In a major move to step up the development of its coastal areas, China has started the construction of a 2,500-kilometre-long fibre-optical cable to link up major cities in East and South China.

According to sources from the Ministry of Posts and Telecommunications, the Southern Coastal Optical Fibre Project, listed on the top agenda of the Eight Five-Year Plan (1991-95), will connect Shanghai, Hangzhou, Ningbo, Wenzhou, Fuzhou and Xiamen with Guangzhou.

The completion of the project, which has a total investment of 400 million yuan ($74.6 million), will provide an additional 70,000 digital lines to ease the existing jammed telecommunications network, and improve the situation in Shanghai municipality and Zhejiang, Fujian and Guangdong provinces.

The trunk line will cross 59 cities above county level in the country's most populous and better-developed region, covering the Yangtze River Delta, the Pearl River Delta, Shanghai's New Pudong Development Area and China's three special economic zones of shenzhen, Shantou and Xiamen.

It will also run across another 10 cities in which the annual industrial output value exceeds 10 billion yuan ($1.87 billion) each, most of which are home to foreign-funded firms.

The rapid development of the national economy and increasingly frequent overseas contacts in Shanghai and these provinces have prompted the government to step up the project.

Meanwhile, the Ministry of Posts and Telecommunications has also decided to build another 400-kilometre-long Nanjing-Shanghai optical fibre line to connect the existing Nanjing-Wuhan cable line with the southern coastal line which is scheduled to be completed by the end of 1992.

China started building optical fibres in the late 1970s, and from 1986-90 completed the country's first-grade Nanjing-Wuhan optical fibre line.

In the past five years, Fujian, Zhejiang, Guangdong, Anhui and Jiangsu have also established their own provincial lines.

So far the country has a domestic communications network consisting of optical fibre cable lines totalling 11,000 kilometres in length, ministry officials said.

The Ministry of Posts and Telecommunications has decided to increase its optical fibre trunk line to 20,000 kilometres by the year 2000.

Fuzhou Establishes Entertainment Broadcast Company

OW0211040291 Beijing XINHUA in English
1408 GMT 01 Nov 91

[Text] Fuzhou, November 1 (XINHUA)—The China Huayi Broadcasting Company (CHBC) was established today in Fuzhou, capital of Fujian Province in southeast China.

The broadcasting company is intended for Chinese both inside and outside the country and will provide entertainment programs and information.

The company, ratified by the Ministry of Radio, Film, and Television, will carry out the general manager responsibility system under the leadership of the board of directors. Some excellent young talented anchormen and anchorwomen from all over the country have been invited to join the company.

The company will utilize world level, advanced broadcasting equipment, and its FM stereo launching stand and broadcast network of medium wave and short wave frequencies will cover the entire area of southeast Asia.

REGIONAL AFFAIRS

Radio Reviews KPL-XINHUA Agreements During PRC Visit

BK3010035291 Vientiane Vitthayou Hengsat Radio Network in Lao 0000 GMT 30 Oct 91

[Text] A delegation of KHAOSAN PATHET LAO [KPL] NEWS AGENCY has ended a visit to the PRC. During the visit, it reached an agreement on bilateral relations and cooperation with the XINHUA NEWS AGENCY of China. Vanthong Phomchanheuang, director general of the KPL NEWS AGENCY, and (Li Qing), director general of the XINHUA NEWS AGENCY, jointly signed in Beijing the agreement on technical cooperation. According to the agreement, the news agencies of the two countries have agreed to exchange information. In addition, the XINHUA NEWS AGENCY has agreed to give a set of satellite news receivers to the KPL NEWS AGENCY and to help the KPL NEWS AGENCY install the receiver system so that it can receive news from the XINHUA NEWS AGENCY.

In addition to meeting and discussing with a delegation of the XINHUA NEWS AGENCY on cooperation in the technical and other spheres, the KPL delegation visited some industrial and agricultural production establishments and some historical places in Beijing, Shanghai, and Guangzhou cities. It returned home on 28 October after ending the 10-day visit to the PRC.

AUSTRALIA

South Pacific Maritime Surveillance Plan Unveiled

BK0411072591 Melbourne Radio Australia in English 0500 GMT 4 Nov 91

[Text] Australia's minister for defense science and personnel, Gordon Bilney, has unveiled plans for a regional maritime communications network for the Pacific. Pacific correspondent Eleanor Reddin reports the plan will link the small countries of the Pacific through satellite and microwave communications.

[Begin Reddin recording] Opening the Regional Defense Cooperation Conference in Sydney, Mr. Bilney said the network was a major milestone. He said it would strengthen each country's sovereignty and bind the region together.

The minister said Australia would fund the project for five years from 1992 but said it would be self-funding after that. Although the actual cost of the program has not been worked out, a defense spokesman said it would be several million dollars. The first stage is to link the National Fishing Department to the (?Forum) fishery base in (?Su'u), Solomon Islands. The network is intended to aid defense cooperation, protection of maritime resources, rescue operations, and disaster relief.

Mr. Bilney added the surveillance network would be effective without Fiji, although he expected its eventual participation after elections there next year. Australia suspended its defense relations with Fiji after the 1987 military coup. [end recording]

CAMBODIA

Radio Deputy Director Meets UN Team on 28 Oct

BK3010041291 Phnom Penh Samleng Pracheachon Kampuchea Radio Network in Cambodian 1300 GMT 29 Oct 91

[Text] On the morning of 28 October, Van Sunheng, deputy director of the Samleng Pracheachon Kampuchea Radio, held talks with a UN team led by (Waram Belly) on a mission to study the news broadcast networks of the Cambodian radio and television.

Van Sunheng told the delegation that the conditions of the currently used radio equipment, left from previous regimes, are deteriorating, pointing out that we have been facing many difficulties due to a lack of funds and technical capabilities. However, with assistance from friendly countries in conjunction with the efforts displayed by the station's cadres and staff, the radio and television have, all the same, managed to carry out their news broadcasts but only at a slow pace. The Cambodian radio deputy director pointed out that although our broadcasts have been in operation without interruption, our station is not yet powerful enough to reach remote areas in the northeast and the Cambodian-Thai border.

INDONESIA

Phone Network Commissioned To Boost East Timor Growth

BK2210143291 Jakarta ANTARA in English 0945 GMT 22 Oct 91

[Excerpt] Dili (East Timor), Oct. 22 (OANA-ANTARA)—Indonesia's youngest province, East Timor, starting from Monday, October 21, enjoys a telephone direct dial facility, making it the 13th province in the country having a fully automatic telephone network.

"It is mainly aimed at boosting the economic growth of East Timor so that it can catch up with the progress of other provinces in Indonesia," Tourism, Post, and Telecommunications Minister Susilo Sudarman said during a ceremony to dedicate the telecommunication facility in Baucau, about 130 kilometers east of here.

With a direct [words indistinct] will not only be able to accelerate its growth but to support the development of other nearby provinces as well, Sudarman said.

He also thanked the provincial administration, P.T. Telkom Indo (the state-owned domestic telecommunication company) and the East Timorese in general for the success in the construction of the facility.

The telephone direct dial facility was only one of the efforts of the government to enable East Timor, the former Portuguese colony which integrated into Indonesia in 1976, to reach rapid progress, he said.

The province—now records an economic growth of around 6.90 percent—is made up of the eastern part of the Timor island which covers an area of 14,609 square kilometers.

From the beginning the government has placed high priority on the province's development of infrastructure and communication facilities as well, including land transportation network, sea and air transportation facilities, and irrigation projects with the objective of improving the welfare and supporting the mobility of the East Timorese.

Information and telecommunication systems have also been given proper attention.

Information about various aspects of life, for example, is transmitted to the people through various means ranging from the television programs relayed from the national television network TVRI to radio broadcasting programs and printed publications.

With the operation of the mini-earth station here in May 1979, the country's 27th province began to be linked by telephone lines through the Palapa Domestic Telecommunication Satellite with all Indonesian cities. [passage omitted]

JAPAN

Agreement With U.S. on Radio Wave Fees

OW2910121191 Tokyo KYODO in English 1112 GMT 29 Oct 91

[Text] Tokyo, Oct. 29 KYODO—Japanese and U.S. telecommunications officials have agreed on early introduction of fees for users of radio waves to help promote the effective use of frequencies, the Posts and Telecommunications Ministry said Tuesday.

The ministry said the agreement was reached at a two-day session held in Tokyo Monday and Tuesday by representatives from the ministry and the U.S. Federal Communications Commission and the National Telecommunications and Information Administration.

Both sides agreed to speed up technology development for the use of mobile communications media, it said.

They also agreed to cooperate in bringing down overseas telephone rates.

KDD To Seek Easier Access To East Bloc Satellites

OW2810120091 Tokyo KYODO in English 1038 GMT 28 Oct 91

[Text] Tokyo, Oct. 28 KYODO—Kokusai Denshin Denwa Co. (KDD), Japan's telecommunications giant, is considering asking a Western bloc satellite network organization to approve Japanese access to the Eastern bloc satellite network Intersputnik, an industry source said Monday.

Instead of the current procedure of submitting separate applications for each case, KDD seeks to gain an overall approval for the Eastern network similar to that gained by the United States in July, the source said.

The appeal would be put through the headquarters of the International Telecommunications Satellite Organization (Intelsat) in Washington D.C. in December via Japan's Post and Telecommunications Ministry, he added.

According to the source, KDD will mainly refer to increasing demand for access to the Intersputnik satellites for the purpose of TV broadcasts between the Soviet Union and Japan.

Intelsat, a body organized by more than 80 countries in the Western bloc to control the use of international communications satellites, currently requires member countries to submit a prior application if access to the Eastern bloc satellite network is necessary.

Approvals are given by case only when use of Intersputnik does not harm benefits of Intelsat such as using its transponders if they are all in use.

Japanese satellite users such as TV stations now have to make an application through KDD and the Post and Telecommunications Ministry to Intelsat. The entire process takes at least two weeks, according to the source.

There is increasing demand for communications with the Eastern bloc amid on-going drastic change in the countries there, he pointed out.

The United States gained a comprehensive approval in July for not only TV broadcasts but also telephones.

10 Firms Apply for Licenses as Satellite Broadcasters

OW3110191491 Tokyo KYODO in English 1451 GMT 31 Oct 91

[Text] Tokyo, Oct. 31 KYODO—Ten companies have applied to the Ministry of Posts and Telecommunications (MPT) by the deadline on Thursday for licenses to undertake telecasting business using communications satellites, the ministry announced.

The ministry has already decided to license six companies for satellite telecasting business. It will choose the

six after seeking recommendations from the radio regulatory council next January, ministry officials said.

MALAYSIA

Minister Speaks on Plan To Launch Satellite

*BK0211144091 Kuala Lumpur Radio Malaysia
Network in English 1330 GMT 2 Nov 91*

[Text] The government has held discussions with a certain group from the United States on the country's plan to launch its own satellite into space. The minister of energy, telecommunications, and posts, Datuk Sri S. Samy Vellu, said the discussions were centered on the estimate for the project.

Speaking to reporters after the opening of the third Southeast Asia Telecommunications Conference in Langkawi, Datuk Sri Samy Vellu said it would take at least two years before the project could be off the drawing board as it would have to obtain the approval of the cabinet and the International Telecommunications Union. He said the project would be run by a private company on behalf of the country. Earlier, in his speech, Datuk Sri Samy Vellu said Malaysia's telecommunications sector was one of the fastest growing in the Asia-Pacific region and the industry grew even more rapidly after the privatization of the Telecommunications Department.

THAILAND

Satellite To Be First To Have Cellular Technology

*BK2310032191 Bangkok BANGKOK POST in English
23 Oct 91 p 22*

[Text] The chairman of the Hughes Aircraft Co board, Malcolm Currie, said yesterday Thailand's first satellite would include cellular transmission which would enable direct links between mobile telephone users and the satellite.

Speaking during a visit to Chinnawat Computer & Communications Co, Dr. Currie said Thailand would be the first country in the world to have the advanced system in use in the H-376 satellite.

With the installation of the system, the satellite will become the world's first cellular transmission unit in space.

It has cost Hughes Aircraft $1.5-2 million to develop the software for the system to be used in the Thai satellite.

Dr. Currie said the software would be installed both in the satellite and the ground station. The software was invented by Hughes Aircraft and Nokia of Finland.

Thailand will be the leader in telecommunications in the region when the system is introduced.

Hughes Aircraft will deliver the first satellite to Chinnawat for launch within 24 months. The company has already launched 36 satellites without problems.

Thailand's first satellite will also cover Indochina, Hong Kong, Korea, Taiwan and Japan, according to Dr. Currie.

Chinnawat executive chairman Thaksin Chinnawat said the cellular transmission system was included in the original 2,500-million-baht cost of the satellite.

He said the installation of the software in the satellite would save money when it came to setting up ground stations.

Dr. Thaksin said the Thai satellite project had helped reverse the braindrain of Thai technicians leaving to work for NASA in the United States.

The Chinnawat satellite project provides a challenge for the Thai technicians.

VIETNAM

TV Station Completed in Chi Lang District

*BK0111090691 Hanoi Voice of Vietnam Network
in Vietnamese 0500 GMT 27 Oct 91*

[Text] In Lang Son Province, following the completion of a television relay station, Chi Lang District has just finished building a station to receive direct color television programs via satellite made possible through the use of a 3.2 meter-diameter parabolic antenna erected on a hill more than 100 meters high in Dong Mo Township, which is located at the heart of the district.

The station has received different color television programs highly reliable both in terms of picture and sound.

Quang Ngai Installs Microwave Telecom Tower

*BK2810101791 Hanoi Voice of Vietnam Network
in Vietnamese 1100 GMT 25 Oct 91*

[Text] The Hanoi Construction Enterprise and the Vietnam Machine Assembling Corporation just completed installing a microwave tower in Quang Ngai Province. With this tower installed, the Da Nang-Quang Ngai microwave telecommunication line will be put into service soon.

This is the second microwave tower after the Nha Trang microwave tower which the Hanoi Construction Enterprise completed with high quality. At the moment, the enterprise is installing the Dong Ha microwave tower.

In the last two years, the Hanoi Construction Enterprise has determinedly applied a policy of only employing good skilled workers and technicians. The enterprise has also applied a policy of contracting out different projects to work teams.

This year, the enterprise has completed many projects and phases of construction projects with high quality. The enterprise has just put into operation a new pile driving machine, starting new competitive capacity in the construction industry in Hanoi.

REGIONAL AFFAIRS

Telecom Developments in Eastern Europe Analyzed

*91WS0523X Budapest FIGYELO in Hungarian
18 Jul 91 pp 25, 27*

[Article by Eva Ehrlich: "Telecommunications in Eastern Europe"]

[Text] When will the telecommunications organizations finally compete for consumers in Eastern Central Europe as well? Even today in this part of Europe those desiring to make use of telephone, telex, telefax, telematic, and data transmission technology are forced to beg, not sparing their material assets, for the favors of all those who can provide these tools to them. How did this situation come to pass? What are the causes of the shortages? Are there special conditions in this part of Europe? What must be done for a radical transformation of the present situation and the creation of a supply market?

Even looking back at the period before the Second World War we find that, compared to the per capita national income at that time, Bulgaria, Czechoslovakia, Yugoslavia, and Romania, of the countries of Eastern Central Europe (hereinafter Eastern Europe), had a lower telephone density than other countries with a similar level of economic development. Supply in Poland corresponded to its level of development at that time, and telephone density in Hungary was about 20 percent greater than the international norm according to level of economic development. Perhaps it can be regarded as a historical antecedent that barely four years after Graham Bell's invention was patented, that is in 1880, the first telephone exchange in Eastern Europe was established in Budapest. At the end of the last century and the beginning of this Hungary quickly caught up with the then developed world in telephone density. The telephone density of Budapest at the beginning of the 1930's significantly surpassed that of Amsterdam, Rome, Madrid, Prague, Tokyo, and other world cities at the time. Even in the years of the world economic crisis very great care was turned in Hungary to the development of the telephone system, recognizing the significance of telecommunications. It should be noted that even then supply in the provinces lagged far behind that in Budapest; it is an illustration of the unevenness in density—as it was of a general tendency in all of the Eastern European countries—that while 13 percent of the population lived in the capital 70 percent of the telephone main lines were concentrated on Budapest, giving a Budapest to provinces density ratio of 12 to one.

In the Soviet Union (1937), in the only country conducting a central planned economy, there was a very significant backwardness in telephone density (more than 30 percent) compared to countries conducting a market economy and with a similar level of development.

At that time there were two groups of countries on the periphery of Europe—the three in Southern Europe (Greece, Spain, and Portugal) and the already mentioned small countries of Eastern Europe.

The average telephone density of the three Southern European countries exceeded the average international norm at that time by 5 to 8 percent—in contrast to the group of Eastern European countries. To put it differently, while the telephone density of the three Southern European countries came to 21 percent of the total European average at that time the telephone density of the Eeastern European region, then still more developed economically, came to only 17 percent.

The Inheritance

After the Second World War also there was a close interdependence between the per capita GDP and telephone main line density. [Graph representing interdependence not reproduced.]

An obvious thing to do would be to study how and to what degree the link between main line density and economic development changed in the 1980's.

It can be seen from the graph [not reproduced] that a higher main line density level belonged to a given level of economic development in 1987 than it had seven years earlier. The degree of change in the international norm is very significant primarily for those with lower economic development. The international norm in 1987 at the low development level is 2.2 times larger than it was in 1980. The difference is smaller (two times) with medium development and is relatively slight (1.25 times) at the high economic development level. The reason is obvious, a certain saturation appears with high economic development and main line supply.

The change over time in the regression lines provides a good illustration of a phenomenon which made its appearance at the beginning of the 1970's, that the role of telecommunications has increased in the new industrialization strategies. The telecommunications sector is raised out of the traditional growth model, and its development is accelerated with the aid of foreign capital. This also manifests itself in the fact that in successfully industrializing countries (primarily in Southern Europe and in the Southeast Asian region) main line density is a good bit greater than the international norm.

The trend in the Eastern European region is the opposite: There is no trace of the stressed development of the telecommunications sector. Indeed, Eastern Europe was not even able to keep up with the change in the average international norms. At both times studied the main line density of the Eastern European countries was substantially lower than that of countries conducting market economies which had the same level of development.

It is worthy of note that in the 1980s the backwardness in main line density from the average international norms increased significantly in every country of Eastern

Europe with the exception of Yugoslavia. In 1980, this backwardness came to 48 percent, and in 1987 it came to 58 percent. The greatest deterioration took place in Romania, Bulgaria, and the Soviet Union. Development in Yugoslavia, on the other hand, was swift. As a result the relative position of the country improved between 1980 and 1987. The backwardness of Yugoslavia decreased, and it began to catch up, if the trend had continued. In 1987, the degree of backwardness from the international standard was greatest in the GDR. The spokesman for German Telecom, in DER SPIEGEL, compared the telephone situation in the GDR to one coming from the West, "The autobahn suddenly ends, and we arrive on a dirt road."

The three countries of Southern Europe (four counting Turkey) realized an accelerated, catch-up type development in main line density as did the "little tigers" of the Far East such as South Korea. Thus, in the decade of the 1980s, the Eastern European region became the most backward part of Europe in regard to main line density, and its main line supply slipped to the level of the developing countries.

Similar trends characterize the specific supply of telexes and changes therein in the Eastern European region.

We can see from the table [not reproduced] that between 1980 and 1987 the supply of telexes for all European market economies increased 1.4 times; within this that of the three Southern European countries doubled. And although the group of Eastern European countries achieved significant progress in the pace of development, its backwardness compared to the other countries still increased.

The available data pertaining to other telecommunications tools (telefax, videotex, minitex, etc.) suggest that essentially the countries of Eastern Europe were left out of that revolutionary change which took place in the developed world following the 1970s. Modern telecommunications networks and services really do not yet function in the majority of the Eastern European countries.

In a great number of Hungarian villages the telephone provides a link with the outside world only in the daylight hours (this leaves out the telephones for calling for aid). In Poland there are 7,000 communities where there is no telephone at all. We must hypothesize that differences similar to those in Hungary will be found within the country in all the other Eastern European countries, with the possible exception of the Czech Republic, and in Bulgaria and Romania the differences are probably a good bit greater.

"Quasi" Telephones

One cause of the differences is technical backwardness. It is a good illustration of the regional supply in the country that 78 percent of the 2,024 main exchanges operating in Hungary at the end of 1988, for example, were manually operated exchanges representing 50 year old technology (which can be considered museum quality). In the majority of cases manual switching also means that the service can be used only between 0800 and 1600 hours on a weekday; 78 percent of the locations in Hungary are not connected to long-distance dialing, 60 percent of the cities in Hungary are not connected to domestic long-distance dialing and 80 percent are not connected to international long-distance dialing. Obsolete, manually operated exchanges work in 40 percent of the cities.

The telephone network in Eastern European countries can be used only with difficulty due to the obsolete technology. There are too many extension phones and many misconnections. Due to the generally characteristic great overloading of the networks there are only "quasi telephones" in a few countries (for example in Bulgaria) because either there are no lines or one must wait a long time for one or one gets a wrong number, so the telephone is unsuitable for continual use. Not even to speak of the fact that getting a telephone in these countries amounts to a privilege. In Hungary, for example, a citizen has had to wait an average of 12 years, in the past two decades, to get a telephone. In 1987 there were 1,853,000 people waiting for a main line in Poland, 265,000 in Czechoslovakia, 607,000 in Yugoslavia, 553,000 in Hungary (in 1989), and 657,000 in the GDR, in 1981—there are no more recent data. But the real telephone needs are greater than this (about twice as great in Hungary for example) if we consider the latent demand as well.

Productivity

According to international experience they generally turn 0.3 percent of the GDP to development of telecommunications in the most economically developed countries, 0.5 to 1 percent in the market economies of Western Europe (an average of 0.62 percent in the European Economic Community and 0.66 percent in the countries of the EFTA) and 1 to 2 percent in the quickly and successfully industrializing countries.

In the Eastern European countries—excepting only Hungary—they turned an average of only 0.38 percent of the GDP to this purpose, despite the extraordinarily low level of supply.

Telecommunications Investments Measured in Percent of the GDP

Country	Year	Percent
Romania	1986	0.18
Czechoslovakia	1987	0.29
Yugoslavia	1986	0.34
Bulgaria	1986	0.34
Poland	1987	0.38
GDR	1987	0.43
Hungary	1989	0.77

Beginning in the second half of the 1980s telecommunications received developmental priority in Hungary. As a result the ratio of telecommunications investments jumped beginning in 1987 and the increase in the number of main lines doubled in 1988-89. But when evaluating this welcome tendency one must remember that a significant part of the investment went to the already indispensable reconstruction of the existing obsolete network, thus to maintaining operability, and to putting into operation the first digital exchange in Hungary and covering the associated expenses—which does offer some hope in regard to the future. In the other Eastern European countries, despite the low level of supply and the obsolete networks, one cannot yet see a worthy change in the ratios of telecommunications investment.

In the majority of the Eastern European countries the post office and telecommunications are still concentrated in a state enterprise endowed with authority rights. (The post office and telecommunications were separated in Hungary in 1990. In Czechoslovakia, Poland, and Romania such a separation will probably take place in 1991.) Prices were undervalued compared to costs so it is virtually impossible to determine, for example, how much a main line really costs.

Especially worthy of attention is an international comparison of the Eastern European development of the ratio of main line use in telecommunications, as relevant to the productivity level of telecommunications.

The telecommunications productivity of the four Eastern European countries is extraordinarily low. The telecommunications productivity of all the European market economies and of the three Southern European countries is 2.2 to 2.3 times greater, and even for the four Southern European countries (including Turkey) it is 1.7 times greater than the average productivity of the four Eastern European countries. One must note that the productivity of the countries which have been developing most swiftly in recent years, realizing developments based on digital technology, such as Spain and South Korea, is 2.9 and 2.8 times, respectively, the average for the four Eastern European countries.

The number of main lines per employee shows that telecommunications "productivity" is extraordinarily low in the Eastern European countries. This can be explained in part by the low technical level of the tools used and in part by the backwardness of the technology used.

Broadcasting

Broadcasting is the only area of telecommunications where there are no special quantitative deficiencies or unsatisfied needs in the majority of the Eastern European countries. This is the sphere where the government organs led by the party state considered mass communications developments to be a question of political importance and gave special treatment to the development of broadcasting and a gradual improvement of accessibility

(possibilities of reception). Here also, of course, we do not have to go next door to find problems. The reception possibilities, or their quality, for radio, but especially for TV, are uneven within the countries. The technical equipment for both state radio and state TV is obsolete and used up physically; replacing and modernizing it is an urgent task everywhere.

In the past year or two the spread of foreign TV transmissions, with the aid of artificial satellites, has begun, for the time being in three of the Eastern European countries (Hungary, Poland, and Czechoslovakia), but here with great speed. In Hungary, for example, 600,000 households had cable TV in 1990.

For the time being private radio and TV do not operate anywhere in Eastern Europe.

The Backwardness

A shortage of telephone networks and tools, and information and telecommunications networks and tools in general, the technical obsolescence and the low quality of service have become the customary thing in the Eastern European countries for long decades. Today all this is causing many billions in economic damage, and we must outline briefly to what more important causes this serious material damage can be attributed.

We have seen that even before the Second World War the communications telephone network of the Eastern European countries was backward compared to other countries with similar development. So the negative inheritance of the past also caused the conservation of backwardness.

The backwardness was strengthened by the fact that after the Second World War the war damage done to the chief exchanges was repaired not to a post-war but rather to a pre-war technical level.

For long decades trends cutting us off from the world or from the world economy (including the neighboring European market economies), and strengthening and making permanent the exclusion, were realized in politics and accordingly in economic policy. This in itself devalued communcations and its significance. In addition the deliberate curtailing of information and communication demand also contributed to the lasting isolation of these economies and peoples from the outside world.

The primacy of material production was realized in a centrally planned economic development and industrialization model feeding from fundamentally political and ideological roots. The incomes generated in the national economy were concentrated in the budget and redistributed by the state. The industrial producing sectors (and primarily heavy and war industry, basic materials and energy production), as sectors "producing value," received priority in the redistribution of income. The other sectors of the economy, such as infrastructures and services, even if they operated with high profit (as

did the telephone service in general), were developed only according to the "remnant principle," receiving resources for maintenance, to ensure their operability and for certain developments. In addition, political goals (for example the obligatory development and operation of a communications system created on the basis of the Warsaw Pact) limited the free use of the resources made available.

Due to the realization of the "remnant principle" the telecommunications network deteriorated year by year; modernization of the basic networks, technical renewal, and expansion were postponed year after year. In most cases there was a development of the larger central telephone capacity—even then lagging far behind the needs—only when and where this was made absolutely necessary by the workings of nationalized or newly created industrial enterprises.

To bridge over the increasing shortages so-called closed purpose networks (special lines for the defense and interior ministries, the government, and central offices, etc.) developed and spread quickly in each of the Eastern European countries, wasting the available resources, in such a way as to satisfy the telephone needs (including the residential telephone needs of leaders working here) absolutely necessary for centrally directed management. The proliferation of closed purpose networks also muddled the basic networks.

The manpower needed for the forcibly accelerated industrial growth was transplanted from agriculture to the cities (by economic constraints). Housing for them was provided by the large apartment buildings built in the industrial regions. With the housing construction in the entirely new areas (the so-called green zones) the populace fell outside the information—including telephone—centers and basic networks which existed. And in the new housing developments they did not build new telephone exchanges, citing a shortage of funds. So the housing developments remained virtually without residential telephones. As a consequence of this the telephone needs of the urban population grew by leaps and bounds in the past 20-25 years in every Eastern European country.

POLAND

Radio, TV Stations Await Franchises

LD2310095891 Warsaw TVP Television Network in Polish 1615 GMT 21 Oct 91

[No video available]

[Text] An end to the state's monopoly. The Sejm passed the law on radio and television. Commercial stations can therefore be created. Franchises are to be granted by the National Radio and Television Council, appointed by the president, the Sejm and Senate. Those companies that want to receive a franchise must be at least 67 percent Polish-owned. Polish citizens living in Poland

should constitute a majority on boards and supervisory councils. Eight hundred estate, local, regional, and national stations are awaiting the allocation of franchises. Eighteen pirate radio stations are already operating in Poland, states Deputy Dobrochna Kedzierska. One hundred bids for the granting of frequencies have been submitted to the Ministry of Communications.

PAP Preparing for Switch to Satellite-Mediated Transmission

LD3010111191 Warsaw PAP in English 2358 GMT 29 Oct 91

[Text] Warsaw, Oct. 29—The Polish press agency carried out a succesful experimental transmission of its service via a satellite channel of the FRANCE-PRESSE agency on October 28-29.

The PAP agency is readying for a switch over to satellite-mediated transmission possibly in cooperation with the AFP or other major agencies whose offers are also being examined.

The new transmission method will place PAP among the modern agencies and will facilitate its access to subscribers at home and throughout Europe.

Rural Areas See Rise in Telephone Installation

92EP0033A Warsaw RZECZPOSPOLITA (ECONOMY AND LAW supplement) in Polish 26 Sep 91 p II

[Article by W.M.: "Telephones Are Coming to Rural Areas"]

[Text] When becoming angry over a silent or poor telephone connection, we should realize that there are those in a worse situation. They do not have this atrocious device at all that often does not work properly. Residents of 4,155 villages are in this situation. In many other villages and settlements regarded as telephone equipped, there is only one operational phone. There are eight poorly functioning telephones per 100 residents, whereas in Europe the ratio is 25 telephones to 100 residents.

The outfitting of rural areas with telephone equipment was the subject of a meeting with journalists held on the 25th of this month by Deputy Minister of Communications Stanislaw Szuder. The deputy minister was by no means in a doleful mood. It turns out that the ministry has something to boast about. New telephone subscribers from rural areas are increasing as never before. Last year, 38,900 new telephones were installed in rural areas. This represented an 11-percent increase in relation to 1989 with an overall increase in subscribers of barely 5 percent.

Over a period of eight months of this year, rural areas received over 33,500 telephones out of a total of 143,333 installations in the country. Deputy Minister S. Szuder calculated that the total increase of newly installed telephones as compared with last year comes to 4.3

percent and 8.6 percent in rural areas. He added that during the current year, it was planned that 200,000 new telephone subscribers would be provided with phone service including 50,000 in rural areas and that this is expected to succeed.

Rural areas crave telephones more intensely than before because increasingly more new enterprises of all kinds, whose operations and growth depend on the ability to communicate with the world, are opening up there. Budget funds allocated for equipping rural areas that do not have telephones with phone service will amount to approximately 30 billion zlotys [Z], according to ministry data.

Telephone installation in rural areas costs much more than in the city. As far as the connection process itself—the average cost in the country is from Z12 million to Z15 million. However, the "creation of a number," depending on the equipment installed, costs from $130 (domestic) to $200 (foreign). Domestic equipment does, admittedly, cost less but it is more expensive to use later, thus, its installation costs more in the long run.

Approximately 1,500 public telephone committees are active in the country. According to a decision made on 16 August of this year by the general manager of PPTT [Polish Posts, Telegraphs, and Telephones], who delegated authority to PPTT voivodship directors, it is permitted to "waive fees for telephone service installation" (currently this comes to Z2.5 million) from committee members who contribute to the building of the telecommunications network. Furthermore, voivodship directors have obtained the right "to exchange the amount exceeding the contribution of telephone committee members (amount exceeding the one time charge for access to the PPTT telecommunications network) for a fee-exempt monthly allowance of registered units during a period not to exceed four years whereby the number of telephone calls per month cannot be less than 50.

A total of Z4 billion will be spent for telecommunications this year. One-third of these funds, as informed, will be in the form of foreign credit, one-third—domestic credit, and the rest in the form of PPTT's own funds. Within three years, Poland should have an additional 1 million new telephones.

ROMANIA

Minister on Long-Term Telecom Projects

AU3110204391 Bucharest ROMPRES in English
1853 GMT 31 Oct 91

[Text] Bucharest ROMPRES 31/10/1991—The following 15 years' telecommunications programme envisages, as Minister Andrei Chirica stated, an enhanced safety and operational stability of Romania's national telephone network, mainly by rebuilding and modernising the long-distance infrastructure and by replacing equipment running below the minimum acceptable output rates.

By 1995 rotary telephone exchanges, that have already been in service for 30-50 years, as well as other types of out-moded equipment shall be gradually replaced by highly performant digital systems. Telephone density will grow from the present 10 percent to 25-30 percent in the year 2005, that is by the installation of 7.2 million lines (replacements included) and of the auxiliary network. By this project, telephone services shall be completely automated.

The plan to connect all the settlements of Romania to the telephone mains includes the about 3,000 rural settlements that at the moment do not enjoy the benefits of telephony.

Present telex networks shall be expanded by other 4,000 new lines. To ensure postal deliveries in maximum 48 hours, the department will be endowed with its own transport motor vehicles and the public will have a direct access to postal services in each place.

For services of a profound social nature, such as radio and television, one of the first targets is the coverage of the whole territory of Romania by programme 2, and this requires the extension of the present transmitter and converter network and the replacement of worn out equipment now in use in programme 1 network.

As for the services offered to authorised media agents, we intend, said Minister Chirica, to complete the national packet switch network, in cooperation with a foreign partner. For the beginning, a public service for data transmission will be open, on the skeleton of which other value-added services (video text, electronic post etc.) will be grafted later for the users.

Cellular phones, to be implemented also in cooperation with a foreign partner, will require the creation of an super-posed telecommunications network to cover for mobile users and to enable Romania's connection to the European radio-mobile system.

Other services the Ministry of Telecommunications has in view: Paging, cable television multiple programme distribution, will all be open to competitors under regulations in force.

YUGOSLAVIA

Yutel To Broadcast Via Eutelsat II From December

LD2510205391 Belgrade TANJUG Domestic Service
in Serbo-Croatian 1527 GMT 25 Oct 91

[Excerpt] Belgrade, 25 Oct (TANJUG)—Goran Milic, Yutel [Yugoslav Television] director, told today's news conference that Yutel Television will begin broadcasting

its program via satellite Eutelsat Two in December. Yutel has booked a Eutelsat Two channel for the next three years.

Denouncing rumors that "Yutel is not a solid partner", Milic emphasized that "there is no problem" because debts will be settled and the present financial balance is positive. The independent Belgrade television channel "Besst" will also start soon as an independent enterprise.

Speaking about the transition to satellite broadcasting, the Yutel director explained that the purchase of six mobile units will give television the speed of radio and "live production" which is "cheap (much cheaper than the 'polished' mounted program) but looks expensive." [passage omitted]

BOLIVIA

Entel To Install Earth Satellite Stations

*PY3010233891 La Paz PRESENCIA in Spanish
19 Oct 91 p 12*

[Text] The National Telecommunications Enterprise [Entel] will install small earth satellite stations in the camps of the oil companies operating in the country. The service also will include the sale of meteorological data and all the information related to the prospecting they are carrying out.

This information was given to PRESENCIA by Entel Marketing Manager Jorge Cabrera, who said that Entel has signed an agreement with the U.S. firm COMSAT-Communications.

Through that company, Entel will be able to enter the Inmarsat telecommunications system, which also is connected with other satellite stations. In the past this system was used for maritime communications.

Cabrera also disclosed that another important client that will enter the data network will be the U.S. Embassy.

He also said that Entel is negotiating an agreement with Alfa Lira Corporation, which administers the Panamsat satellite. Cabrera believes that representatives of that company will arrive in La Paz next week to sign an agreement.

Regarding the contract recently signed with Alcatel Telespace of France, Cabrera said that Entel's objective is to install 14 additional earth satellite stations for the domestic satellite system (Domsat).

The new stations will help solve communication problems with Trinidad, Bermejo, and other towns located near the border with five countries, and also with the zones considered important for wine production, such as the ones in Tarija and Chuquisaca.

New FM Radio Station Opens in Jesus de Mechaca

PY2510215191 La Paz Television Boliviana Network in Spanish 1700 GMT 25 Oct 91

[Summary] Radio Machaca is a new FM radio station operating in the town of Jesus de Machaca. It will benefit more than 12 nearby communities, has a 100-km range, and operates with 250 watts. Radio Machaca will be on the air for about 12 hours per day and will broadcast in the Aymara Indian language. Radio Machaca Director Ivan Arias explains that Radio Machaca programming will be based on the development program which encompasses four basic areas: production, health, infrastructure, and education.

BRAZIL

Launch of First Satellite Set for May 1992

*PY2610235491 Rio de Janeiro O GLOBO in Portuguese
24 Oct 91 p 30*

[Text] The first Brazilian satellite, which is being manufactured by the National Institute of Space Research (INPE) and which will cover the entire national territory, will be put into orbit before the Rio-92 [UN Conference on Environment and Development] ecological conference, which is scheduled to start in June next year. The U.S. company Orbital Sciences Corporation, whose agent in Brazil is Montemer International of the Monteiro Aranha Group, won the bidding contest organized by the Aeronautics Ministry and will be launching the satellite for $11.5 million.

The satellite, which has been named SCD-1 and which will stay in elliptical orbit at an altitude of 700 km, will conduct remote sensing and will transmit environmental data on Brazilian soil gathered through a network of 500 Automatic Data Collection Platforms (PCD). This system is equipped with sensors that can be used in meteorology, oceanography, and atmospheric chemistry. The SCD-1 also will monitor conditions in the Amazon basin and adjacent rain forests. It will measure both the soil temperature and forest degradation.

Jacques Mercier, a partner-director of Montemer International, said that the idea is to launch the satellite in May 1992 so that it can be in operation during the Rio-92 conference, which will be attended by several chiefs of state and which will focus on global environmental issues. He added that the SCD-1 will be launched from the United States by a B-52 plane that, upon reaching a 10,000-meter altitude, will release a Pegasus rocket that will put the satellite into orbit. He noted that the cost for launching the satellite includes insurance and financing over a two-year period.

Construction of Rocket To Conclude in 1995

*PY0411015491 Sao Paulo O ESTADO DE SAO
PAULO in Portuguese 2 Nov 91 Science and
Technology Section p 10*

[Text] The industrialized countries have reportedly imposed an embargo on the Brazilian Complete Space Mission (MECB) because they fear that the materials comprising the satellite launch vehicle (VLS), such as the control sensor, could be used for military purposes. SPACE NEWS magazine (published on 14 October) reported that during an October meeting of the International Astronautics Federation in Canada, Jayme Boscov, head of the VLS project, said that the embargo was unjustifiable and that, as a result of the embargo, construction of the Brazilian rocket will conclude in 1995.

In 1990 the Brazilian Government signed an agreement with the French enterprise Arianespace for the launch of two communications satellites. In exchange for this, the

government expected France's cooperation in developing the VSL and training with the Viking engines that are used with the Ariane rockets. According to Boscov: "The agreement angered the defenders of missile controls in the United States. This made the French Government step back."

The Brazilian Government then decided to accept the Pegasus rocket manufactured by Orbital Science Corporation. But the U.S. rocket was used on only one occasion when a military communications satellite was launched for NASA in April 1990. On that occasion the launcher lost contact with the control base for several seconds, during which time the satellite altered course and remained at a lower orbit than that previously planned.

In the Pegasus system, a rocket is placed under the wing of a B- 52 bomber, which launches it at an altitude of 10,000 meters, as if it was a missile. This makes the first stage of the launch less expensive and, consequently, lowers costs.

If everything succeeds, the rocket will put the 115-kg satellite into orbit at an altitude of 750 km. The satellite's main task will be to analyze the gases that scientists deem responsible for the heating of the planet.

CHILE

European Banks Grant CTC $118 Million Loan

PY0111204491 Madrid EFE in Spanish 2027 GMT 29 Oct 91

[Summary] Santiago, 29 Oct (EFE)—The Chilean Telephone Company [CTC] has confirmed that a group of 15 European banks have agreed to grant it a $118 million loan to finance part of the company's expansion program scheduled for 1992-93. The CTC intends to install 1 million new lines in the next five years, as well as complete the digital system.

PERU

Government To Privatize Telecommunications System

PY2410173091 Madrid EFE in Spanish 0003 GMT 24 Oct 91

[Text] Lima, 23 Oct (EFE)—Antonio Paucar, president of the National Telecommunications Enterprise of Peru [Entelperu], today announced that Peru will privatize its national telecommunications system because, after 20 years under state control, the service has not had a good development.

Paucar also said that Entelperu will publicly auction 20 percent of its shares of the Peruvian Telephone Company, which provides telephone services in Lima.

Paucar noted that the privatization of this service "is sound and will be designed to promote the development of telephone services in the country with the participation of foreign companies and investors."

Paucar, who today opened the second Meeting of Financial Directors of Ibero-American Telecommunications Enterprises, added that Peru "will follow the modern trend observed in other Latin American countries, which are privatizing their telecommunications systems."

Further on ANDINA Expansion Plans

PA3110031491 Havana PRENSA LATINA in Spanish 0405 GMT 29 Oct 91

["Pool" item]

[Text] Madrid, 28 Oct (ANDINA pool)—ANDINA, the Peruvian news agency, has signed a cooperation agreement in Madrid with EFE news agency that will allow it to use the Atlantic Satellite, which simultaneously reaches countries on four continents.

The agreement was signed by Luis Grados Trinidad, chairman of the ANDINA Board of Directors, and Alfonso S. Palomares, his EFE counterpart.

The accord will enable ANDINA to transmit news about Peru to all points in Peruvian territory and all over the world, in order to offer a true image abroad of the Peruvian reality.

Grados Trinidad announced that ANDINA will open 20 more offices in the provinces of the country, and will have correspondents in the Andean nations as first and second stages of the project.

The document signed with EFE will allow ANDINA to modernize its editing and broadcasting equipment, include a telephoto program.

ANDINA Signs Accord With EFE, Plans Expansion

LD2610161991 Belgrade TANJUG in English 1434 GMT 26 Oct 91

["Pool" item]

[Text] Madrid, Oct 26 (ANDINA)—Peruvian news agency ANDINA signed in Madrid an agreement on cooperation with the agency EFE, which will enable it to use the Atlantic satellite, connecting four continents.

The agreement was signed by the chairman of the board of directors of ANDINA, Luis Grados Trinidad, and his counterpart from EFE, Alfonso S. Palomares.

The agreement will enable ANDINA to broadcast news about Peru to all parts of the world, in order to give a true image of the country's reality abroad.

Grados Trinidad announced that ANDINA is to open up another 20 offices abroad, as well as to set up correspondents in Andean countries, during the first and second stage of the project.

VENEZUELA

Telecommunications Commission Created

92WT0009A Caracas EL DIARIO DE CARACAS in Spanish 20 Sep 91 p 19

[Text] The GACETA OFICIAL has published the official order creating a commission responsible for regulating and controlling telecommunications. The commission will begin its work previous to the sale of 40 percent of the CANTV [National Telephone Company of Venezuela] stock, but highly reliable sources say it is not yet known who the members will be. Fernando Martinez Mottola has already been ruled out. The commission will have its own financing and be under the MTC [Ministry of Transport and Telecommunications].

The GACETA OFICIAL has published the order setting up the National Telecommunications Commission (Conatel) whose duties, among others, will include planning, heading up, and supervising the country's telecommunications services.

It is not yet known when the commission will begin its work, but CANTV sources say it will come before the auctioning off of 40 percent of all shares in the national telephone company.

Conatel will hold the rank of general sectorial directorate and come under the Ministry of Transport and Telecommunications, while operating as an autonomous agency but without its own legal status.

Resources to run the commission will come from a tax collected from CANTV and the government's budget funds.

It is not yet known who the Conatel members will be, but it has been revealed that the current president of CANTV, Fernando Martinez Mottola, will not be among them. It was also learned that he will not be part of the company once the public international bidding is completed.

Regulating and Overseeing

Conatel will also be in charge of regulating telecommunications services and overseeing the execution of communications plans and programs.

According to Order No 1,826, Conatel will make recommendations concerning the granting of concessions, permits, and administrative authorizations.

Its other duties will include: overseeing the right to grant concessions and permits; promoting investments and technological innovations in the telecommunications sector; enforcing, by virtue of delegated power from the minister, administrative sanctions set forth in the Telecommunications Law and Regulations on Technical and Other Respective Services; ensuring respect for the rights of users; managing equipment and resources assigned to it and those obtained as the result of its functions; joining with national and international organizations in coordinating technical matters relating to telecommunications; overseeing the use of radioelectric equipment; drafting guidelines, standards, and regulations applicable to telecommunications services; administering agreements on the use of international technical resources; liquidating and collecting duties, taxes, and other revenue of the department; and finally, any other powers set forth by the law and regulations.

The Conatel budget will come from the following, according to the GACETA OFICIAL: resources allocated to it in the budget for every fiscal year; any special revenue allocated by the National Executive Branch; revenue from management of the department; and any revenue collected in accordance with paragraphs 7, 11, and 15 of Article 2. Such revenue will be earmarked for self-financing of the department.

The commission will be made up of a director and an advisory council made up of seven members having proven professional, technical, and managerial experience.

INDIA

State Firm Develops Satellite TV Uplink Station

*BK2610124491 Delhi All India Radio Network
in English 1135 GMT 26 Oct 91*

[Text] The state-owned Bharat Electronics in Bangalore has developed and manufactured a 2.5-crore-rupee C-band satellite uplink air station for Doordarshan [television]. Used for transmitting tv programs through satellite communication, this uplink system can replace the imported one and save foreign exchange.

Satellite Launch Vehicle Motor Successfully Tested

*BK2810151391 Delhi THE HINDUSTAN TIMES
in English 18 Oct 91 p 4*

[Text] Bangalore, Oct. 17 (UNI)—The high energy upper stage solid rocket motor of the Polar Satellite Launch Vehicle (PSLV) has been successfully tested at the Sriharikota Rocket Launch (SHAR) centre, marking an important achievement in the realisation of this vehicle which would be on its maiden flight next year.

A communique issued by Indian Space Research Organisation (ISRO) here today said the upper stage of the PSLV and the control system were tested at SHAR.

This was the first test in which the flex nozzle control system, which facilitated the nozzle to turn as sought by the control requirement, was proven.

The communique said data analysis at the end of the test showed that all the systems had performed as per design specifications.

The communique said the two-meter diameter rocket motor was made of polyaramid fibre embedded in epoxy resin. It carried 7.25 tonnes of solid propellant to burn for 80 seconds and to produce a maximum thrust of 33 tonnes.

(The motor propels the PSLV upper stage and the satellite (1000 kg class) from an altitude of 160 km to 400 km, imparting an additional velocity of 2.1 km per second. It is one of the largest upper stage motors in the world.)

The design and development of the motor case, the flexible bearing actuator and power system for the thrust vector control and the ignition system were carried out by the Vikram Sarabhai Space Centre (VSSC), Trivandurm. The SHAR centre had handled the propellant casting, curing and testing of the motor.

The 60-tonne liquid propulsion second stage motor was tested at the Mahendragiri on June 3, 1991.

Earlier, the ISRO had carried out the ground resonance test (GRT) on the PSLV's first stage and strap on motors last year.

In addition, the giant mobile service tower (MST) along with the launch pedestal and umbilical tower were set up at the SHAR centre for integration of the PSLV.

The PSLV has been designed and developed indigenously to launch satellites of the 1,000 kg class (remote sensing satellites). Its maiden flight would carry an engineering model of the Indian Remote Sensing (IRS) satellite series.

Telecom Official Tells Network Plans

*92WT0023A Madras INDIAN EXPRESS in English
22 Sep 91 p 2*

[Unattributed article: "Village Panchayats To Be Linked to Telecom Network"]

[Text] Madras, Sept. 21—About 1,450 village panchayats in Tamil Nadu will be linked to the telecommunication network and 25,000 new phone connections provided state-wide (excluding madras) this year.

Nine thousand five hundred new lines will be commissioned in Coimbatore in three phases from the beginning of 1992 and about 9,000 lines in Pondicherry towards the end of this financial year or the first quarter of next year.

Meanwhile, as part of the latest plan to provide a phone to all village panchayats throughout the country by 1994-95, 55 panchayats were linked to the telecom network in August and another 55 in September, Tamil Nadu Telecom Circle chief general manager G. K. Gupta told INDIAN EXPRESS.

Of the 2.2 lakh village panchayats in the country, 13,272 are in Tamil Nadu and Pondicherry. In Tamil Nadu, 5,000 have already at least one phone each leaving 8,000 to be covered in the next 3-1/2 years. In the remaining months of this year 1,300 villages will be provided with connections.

According to Mr. Gupta, two types of connections are being provided to the village panchayats—either a land line from the nearest exchange or a multi-access radio relay system. When the connection is by radio, a cluster of villages in a radius of 25 km are linked to a main base station, with a 40 metre tower, accommodating 15 or 30 lines. In turn the station is linked up with an exchange. Each connection costs Rs. 70,000 to Rs. 80,000. Operators who are entrusted with the phones are given a 20 per cent commission but they have to ensure that the instrument is accessible to all.

In all about 85,000 lines will be commissioned this year, of which 40,000 lines go towards replacement of old lines and decommissioning of old exchanges. Three hundred small exchanges of an average capacity of 80 lines will be made electronic mostly with C-DoT equipment, or ITI equipment.

At a different level, the 2,000-line manual exchange at Cuddalore is being replaced by a cross bar exchange of

2,500 lines. A 1,500-line strowger exchange at Bhavani is being replaced with a 2,000 line cross bar exchange, according to general manager (development) R. Madhavan.

Exchanges that are to be expanded include: Kumbakonam (1,000 lines), Namakkal (1,500), Thanjavur (1,000), Madurai (Madurai main and Thallakulam, 600 each), Dindigul (600), Nagercoil (600), Coonoor (500) and Ooty (300).

And for the first time in the state a 4,000 line-C-DoT Max I exchange is being set up at Tiruchengode to replace the existing 1,300 line exchange there.

Electronic trunk automatic exchange lines are to be commissioned in Coimbatore (1,500 lines) and Tirunelveli (1,000 lines). The 2,500-line Tiruchi exchange is being expanded by 500 lines next year. Meanwhile, 1,500 lines were commissioned at Salem in August and Madurai is also slated to receive 2,000 new lines next year.

The 1,244 exchanges falling under Tamil Nadu Telecom Circle have a total capacity of over three lakh lines. Nineteen exchanges remained to be automatised at the end of March 1991, of which six have already been automatised. Eight or nine more exchanges will be taken up for automatisation this year and the process of covering all the exchanges will be completed by 1992-93.

As part of the scheme of providing STD phones on major highways for every 40 to 50 km, the Madras-Bangalore highway (via Vellore and Hosur) will be covered. New connections will be provided at 10 places en route with part of the distance being covered by Madras Telephones. The Madras-Madurai route as well as the portion of Madras-Tirupati highway up till Tirutani will be covered similarly.

Meanwhile, all district headquarters hospitals in Tamil Nadu have been provided with a free public phone, on a Central directive.

Small 40-line telex exchanges are coming up at Virudhunagar, Kumbakonam, Dindigul, Maraimalainagar and Gummidipoondi and 100 line electronic concentrator type exchanges at Hosur and Pondicherry. The number of telex lines in Madurai is being increased from 220 to 250 while "notional telex" will be introduced at six places.

Other plans for the year include ducting of 10 km of cables, pressurising of 100 cm of existing cables, establishing an optical fibre cable link between Madurai and Tiruchi and a broadband microwave link between Madurai and Coimbatore.

IRAQ

Minister Opens Telecommunications Center

JN2310152591 Baghdad INA in Arabic 1330 GMT 23 Oct 91

[Excerpt] Baghdad, 23 Oct (INA)—Minister of Transport and Telecommunications 'Abd-al-Sattar Ahmad al-Ma'ini today opened al-Rashid Communications Center after the completion of repair work at a cost of 4.5 million dinars in a record time of approximately five months.

The center's director Engineer Samir Bashir Khattab told INA the facility will begin offering international telephone services to the public via eight international telephones for twelve hours as of 0800 up to 2000. It will also provide round-the-clock telex services. [passage omitted]

Team Leaves for Islamic Communications Meeting

JN0311110191 Baghdad INA in Arabic 0725 GMT 3 Nov 91

[Text] Baghdad, 3 Nov (INA)—A Transport and Communications Ministry delegation left for Bandung today to participate in the second conference of the Islamic ministers of communications, which will open in the Indonesian city on 7 November, and will last three days.

Ghassan 'Abd-al-Razzaq, director general of the State Enterprise for Communications and Post and head of the delegation, said the conference will discuss several topics in the field of wire and radio communications among the member states, and means of expanding such communications. He said the conference will also discuss a plan to promote postal services and to offer postal and communications training to technical cadres.

He explained that representatives of 36 Arab and Islamic states will participate in the conference, in addition to representatives of a number of international organizations specializing in wire and radio communications.

ISRAEL

Experts Claim Syrian Takeover of Freed Shortwave Beams

TA0411114291 Tel Aviv HA'ARETZ in Hebrew 4 Nov 91 p A7

[Report by 'Irit Rosenblum]

[Excerpt] Education and Culture Minister Zvulun Hammer and Communications Minister Refa'el Pinhasi will hold an urgent government-level meeting today to discuss the cuts implemented in shortwave broadcasts to North and South America. Communications experts contend that the cuts, carried out due to financial difficulties, have resulted in the Syrians and perhaps even Ahmad Jibril taking over two of the wavelengths. [passage omitted]

Gorbachev Issues Media Company Management Decree

*LD2110173591 Moscow SEM DNEY in Russian
No. 43, 21-27 Oct 91 p 2*

["Decree of the President of the Union of Soviet Socialist Republics: Questions Concerning the All-Union State Television and Radio Broadcasting Company" issued by USSR President Mikhail Gorbachev in the Kremlin on 12 October; all punctuation and figures as published]

[Text] For the purpose of setting up an efficient management structure for the All-Union State Television and Radio Broadcasting Company, I decree that:

1. The following amendments and additions be introduced into the Provisions on the All-Union State Television and Radio Broadcasting Company approved by a decree of the president of the USSR dated 11 April 1991 (Gazette of Congress of People's Deputies of the USSR and of the USSR Supreme Soviet, 1991, No. 17, p. 506):

1) In subparagraph 14 of paragraph 44 the words "of the program and administrative council" to be replaced by the words "of the council of directors";

2) Paragraphs 47, 48, and 49 to be reworded as follows:

"47. The All-Union State Television and Radio Broadcasting Company is headed by a chairman appointed by the president of the USSR.

The chairman of Gosteleradio has deputies who are general directors of the main areas of activity, appointed by the president of the USSR on the recommendation of the chairman of Gosteleradio.

48. The chairman of Gosteleradio directs the company's activities. He is personally responsible for ensuring that Gosteleradio fulfills its tasks and discharges its functions. He determines the degree of responsbility of the deputy chairmen as general directors of the main areas of activity, of the heads of directorates and of other structural subdivisions and structural units, and also of the managers of the associations, enterprises, and organizations forming part of the company.

49. A council of directors is to be set up within Gosteleradio, comprising the chairman, his deputies as general directors of the main areas of activity, and the heads of other directorates.

The council of directors to be headed by the chairman of Gosteleradio. The members of the council to be appointed by the chairman of Gosteleradio.

The council of directors will examine at its sessions long-term and current issues affecting the work of Gosteleradio.

The council's decisions will be implemented, as a rule, by orders of the chairman of Gosteleradio.

2. The chairman of Gosteleradio will prepare proposals for amendments to decisions of the USSR Government arising from the present decree.

[signed]—M. Gorbachev, president of the Union of Soviet Socialist Republics
The Kremlin, Moscow
12 October 1991

Rostov Scientists Develop Satellite TV Antenna

OW2310110391 Moscow Central Television First Program and Orbita Networks in Russian 2000 GMT 15 Oct 91

[From the "Utro" program]

[Text] [Announcer] Possibly many are interested to know when we will be able to freely watch satellite television programs. A word from our correspondents from Rostov-Na-Donu. [Video shows a parabolic satellite antenna on the roof of a building, then cuts to show technicians working on a display consisting of a six-leaf parabolic antenna and variations down to one-leaf size antenna]

[Begin recording] [Reporter V. Razinkin] A few years ago, such antennas were considered to be a fantastic luxury. Today, they are becoming a familiar part of the architectual aspect of our cities and villages. Scientists and specialists of the Rostov All- Union Scientific Research Institute Gradiyent have successfully completed the testing of the most complex electronic apparatuses. [Video shows parabolic antennas bearing the logo GR in a circle, with the word "Gradiyent" beneath it]

Within the framework of conversion, they are the developers of the production of satellite television antenna systems. The unique construction allows around-the-clock reception of domestic and foreign broadcasts. In Europe alone, up to 50 different programs can be viewed via satellite television, while we can view only seven or eight—and then basically only in the western regions of the country. [Video shows specialists adjusting the antenna, workers at consoles, specialists in discussion, various other activities]

Nonetheless, it must be admitted that despite the existence of a legal basis, the development of satellite television is still progressing slowly because of many other problems. One of the reasons is the high cost of antennas and receiving equipment, and to make them more accessible to a wider circle of consumers, the scientists came up with the expedient idea of producing not only individual, but also a group satellite television system that can be erected in a building of 300-400 occupants. Practice has shown that the quality of reception and broadcasting and the reliability of the apparatus does not concede anything to world standards. [Video shows a group of people test viewing.]

Speaking of the possibilities of space television, a 2-3-meter diameter antenna can receive up to 30 programs from each satellite—and there are more than 30 of them—broadcasting from space to countries and continents. [Video shows a display of various pieces of equipment]

Serial production of the Rostov scientists' developments has been recommended. However, the capacities of scientific and industrial associations of the radio industry still are not great, but even this year, thousands of satellite television antenna systems will find buyers. We hope our report has answered some of the viewers' questions on broadcasting that interest them. It only remains to be added that we still need to solve a mass of theoretical as well as organizational issues before the cherished television signals from space appear on our screens. [end recording]

Rostov Gradient Porduces Satellite Dishes

LD3010143591 Moscow Central Television First Program Network in Russian 1000 GMT 30 Oct 91

[Report by correspondent V. Razinkin from the "Television News Service" program]

[Text] A few years ago, television antennae such as these were regarded as a fantastic luxury. Today they are becoming a normal architectural detail in our towns and villages. Tests of highly complex electronic apparatus have been successfully completed by scientists and specialists at Rostov's Gradient all-Union Scientific Research Institute. [video shows satellite dishes on apartment blocks, antenna assembly workers, parts of dishes marked "gradient" in Russian]

In the context of conversion, they are developing and manufacturing satellite television antenna systems, constructions that make it possible to receive Soviet and foreign broadcasts round the clock. In Europe alone, up to 50 different programs are watched, while in our country there are seven or eight. It must be admitted that despite the existence of the necessary legal basis, satellite television is developing slowly in our country for many reasons.

One reason is the high cost of the antennae and receiving equipment. The Rostov scientists' development has been recommended for serial production. However, the capacity of the scientific production associations of the radio industry is still small. This year, though, thousands of satellite television antennae systems will find their way to purchasers. A mass of organizational problems, as well as technical ones, have to be overcome before the cherished television signals from space appear on our television screens.

Russian Independent Broadcasting Association Formed

OW2410182091 Moscow INTERFAX in English 1210 GMT 24 Oct 91

[Following item transmitted via KYODO]

[Text] The Russian Independent Broadcasting Association was set up in Moscow on Wednesday. The founders include the Association of Auteur Television, the Europe plus USSR joint venture, the Ekho Moskvy radio station and the Academy of Russian Deputies.

The purpose of the association is to promote nongovernmental broadcasting, protect the interests of independent braodcasters and the rights of listeners and viewers.

Additional information is available at Ekho Moskvy, Nikolskaya St. 7, Moscow, 103012, tel. 292 20 01.

Commercial Radio Station To Debut in Moscow

OW0411075691 Moscow Central Television First Program and Orbita Networks in Russian 2000 GMT 3 Nov 91

[Studio interview with Yelena Danilina, head of a new private commercial radio station, from the "Utro" program presented by Aleksandr Goryanov and Larisa Verbitskaya—live]

[Excerpts] [Goryanov] We have a guest in our studio, but first, here is the sign-on of a new commercial radio station. [video shows Groyanov, Verbitakaya, and Danilina in the studio as audio carries the radio sign-on]

[Begin recording of sign-on] (?Biznes Radio Rezonans), an independent commercial radio station, is beginning its daily programming. Our broadcast wavelength is 25 meters and the frequency is 11,850 kilohertz. [end recording]

[Goryanov] And so, I repeat, our guest in the studio is Yelena Danilina, the chief editor of a new private radio company. We are very happy that you have come here to join our program. Tell us, please, how difficult is it to organize this kind of private radio company today, and when can our television viewers hear your sign-on and get information from your radio?

[Danilina] The first part of your question, how difficult. You know that we were the first, so that it was very difficult, because people could not understand why this was necessary—why six private individuals suddenly plunged into this activity. Nevertheless, we became convinced that business is essential for journalism. It is essential simply to combine, as we are doing, to combine Western business with... [changes thought] I will explain why, because we have journalists who are familiar with foreign broadcasting through their work. We have businessmen working for us who previously worked for the

administration servicing the diplomatic corps—an organization of this sort exists in Moscow—and international trade workers. Now, since all of us were friends, we united and decided to create this extraordinary symbiosis. It is alive, and tomorrow it will go on the air for the first time.

That was the first part of your question. The second half—excuse me, I am nervous because today, generally we have been working 16-hour days...

[Goryanov, interrupting] I asked you how difficult it was. I understand it was very difficult. So tell us.

[Danilina] It was difficult, but we have laid the groundwork, and you know it is beginning to work.

[Goryanov] Where will your radio be heard?

[Danilina] Where will it be heard? Well, we will be heard in Moscow on shortwave, on 25 meters. It is a good wavelength. It has been cleaned up; everything has been done properly. Further, we will be heard in St. Petersburg on a medium wavelenth of 439 meters, and in Ufimsk on 215 meters—that is, also on a medium wavelength. Therefore, after dark we will be heard practically—or, so we were told—from the coast of Great Britain in the West to Chelyabinsk in the East. Now later, after the New Year, we will also have a medium wavelength in Moscow. [passage omitted]

[Goryanov] What will you have in your programming—music, news? What will you have?

[Danilina] Music and information and, of course, we will be carrying, and accepting, private commercial and advertizing announcements like any normal commercial radio station. [passage omitted on support for business school] For those who want to establish business ties with us, here are our numbers: Our fax is 095—the area code for Moscow—215-01-74. Our telex in the Union is 114-532. Our two contact telephones are 215-6456 and 217- 9454, and our address is: Index 127 427 Koroleva 19.

[Goryanov] Thank you. We wish you success.

[Danilina] Thank you.

New Radio Station for Businessmen To Start Up

LD0111185791 Moscow Radio Rossii Network
in Russian 0800 GMT 1 Nov 91

[Text] The first private radio station in Russia, Resonance [Rezonans], is planned to go on the air on 4 November. As reported to a Rusian Information Agency correspondent by Resonance chief editor Yelena Danilina, the radio station has been given premises at the Olympic TV and radio complex at Ostankino. The possibility has arisen to have relay transmitters in St. Peterburg and in Ufa. Talks are underway with Magnitogorsk. In this way Resonance will be heard over a territory stretching from Britain to Siberia.

The radio station for businessmen will advertise in Russian, English, German, Polish, Slovak, French, and Czech. In Moscow broadcasts will be made on the 25 meter band, in St. Peterburg on the 439 meter band, and in Ufa on the 215 meter band, from 0700 to 0900 and from 2200 to 2400. Apart from that, from 1500 to 1600 it is planned to have one hour of broadcasts especially for Moscow.

A radio school for people starting out in business; for businessmen; stock exchange summaries; trade proposals; music to suit all tastes and no kind of politics—that's the agenda for our Resoance, Yelena Danilina said.

Armenia, AT&T Open International Telephone Exchange

NC2610192291 Yerevan Radio Yerevan International
Service in Armenian 1730 GMT 25 Oct 91

[Text] The first Armenian international telephone exchange opened yesterday in Yerevan. It is unique for its technical equipment and capabilities.

Armenian leaders, representatives of the American firm AT&T, and the Armenian community in the United States and other foreign countries were taking part in the official opening ceremony of the exchange and of the first line, to Los Angeles, through the satellite link. The new, modern Armenian telephone exchange makes it possible to communicate immediately with any country in the world without going through the Moscow international automatic telephone exchange service.

In greeting those present, Armenian President Levon Ter-Petrosyan noted the importance of direct international lines in the spheres of (?freedom), economic advancement, and cultural [words indistinct] progress.

The new international exchange will have 500 (?channels), through which it will be possible to automatically and reliably link with any country on the globe.

The new exchange cost $6 million, of which $2 million was provided by Armenia and $4 million by the American firm [word indistinct].

[Yerevan Radio Yerevan International Service in Armenian at 1730 GMT on 26 October reports: "First Deputy Prime Minister Ruben Chiftalaryan received an official delegation from the American firm AT&T, which is in Armenia for the opening of the international satellite telephone exchange. During the reception it was pointed out that the successes of the modern business world are directly dependent on modern communications systems. Very profitable and important enterprises often remain unfulfilled for lack of clear communication.

["Ruben Chiftalaryan expressed thanks for the enormous help the American businessmen and renowned firms and companies provided Armenia. One of the best

manifestations of this help is this modern telephone system which the American specialists installed in Yerevan.

["Sam (?Lukogson), vice president of AT&T, expressed thanks for the assistance given during the construction and installation work and assured that this first step is the beginning of future cooperation."]

BALTIC STATES

Estonian Official on Relay of Central Television

LD0311105891 Tallinn Radio Tallinn Network in Estonian 1500 GMT 31 Oct 91

[Text] Mart Siimann, director general of Estonian Television, has said to the Baltic News Service agency that the issue of relaying Central Television programs on Estonian territory next year is still open. According to Siimann, the issue is due to be resolved within two weeks. He added that until recently there was no certainty that Central Television would continue to exist. Now, however, the USSR State Council is said to have allocated means to the Central Television for next year. According to Siimann, the relay will largely depend on what Central Television will be like. If it becomes the television of the republics which have signed an economic agreement with each republic being given equal air time, then we will have no interest in relaying it. A provisional agreement with Russian Television has been reached to the effect that Estonia will not have to pay anything for relaying Russian television programs. Furthermore, Russian Television will pay for the relaying of the programs—along radio relay lines—up to the Estonian border. Estonia must spend means only on the exploitation of a television transmitter.

REGIONAL AFFAIRS

German Telecom Minister on European R&D Trends

91MI0568X Coburg OPTOELEKTRONIK MAGAZIN in German Aug 91 pp 186-187

[Text] "To ensure and enhance economic efficiency, postal and telecommunications regulation policy will receive more attention worldwide than has been the case until now. The reasons lie in the technological and ecological development of all industrialized countries," stated Dr. Chrisitian Schwartz-Schilling, Federal Minister of Posts and Telecommunications, in his address to the Third International Conference on Telecommunications Policy and Regulation in Berlin.

"Telecommunications is a major economic factor within the European Community. By the year 2000, about 1,000 billion German marks [DM] will have been invested in telecommunications in the European Community, and the competitiveness of over 60 million jobs in the EC will depend to a greater or lesser degree on telecommunications and information technology." This was how Schwarz-Schilling described the major role of telecommunications in the liberalization of the movement of goods, capital, and services in Europe, adding that the regulation and competition policy frameworks required for this development were already largely in place.

"Monopolies will be allowed for the network infrastructure and the telephone service only. For data transmission, meaning transfer services only, all other telecommunications services performed via terrestrial networks, and all telecommunications terminal equipment, competition is in order. Satellite and mobile communications will be covered by a separate EC regulation. These regulations on competition also apply to public telecommunication companies. German regulatory policies on telecommunications are fully in line with the framework laid down by EC law, and in fact they are more liberal in certain areas," Schwarz-Schilling added.

Increased competition required technological compatibility, however. For this reason, the EC was pressing for Europe-wide harmonization, especially in new network technologies and services. The minister cited the examples of Euro-ISDN [Integrated Services Digital Network], the European mobile radio standard GSM—better known in Germany as "D-Netz"—and the European radio paging system ERMES; over 20 European countries were involved in all three projects.

"Back in July 1989, we ushered in a new era for Germany when the law that restructured the postal service came into force," added Schwarz-Schilling, who defined the basic principle of the reform as follows: "Competition is the rule, whereas monopoly is the exception and has to be justified."

This meant that all telecommunication services and terminal equipment had to be offered competitively, the sole areas not open to competition being, for reasons of infrastructure, the telephone service and transmission paths. Competition was also permissible, however, in the fringe areas of these remaining monopolies. Schwarz-Schilling mentioned satellites and mobile radio communications as the major sectors.

He went on to say that a further cornerstone of the reform was the separation between responsibility for national policy, sovereignty, which was in the hands of the Ministry of Posts, and the operational and commercial aspects, which had been taken over by the three companies making up the German Bundespost. Postal reform had created numerous new areas of resposibility for the Ministry of Posts in its new form; for example, as Bundespost Telekom provided services in both the monopoly and the competitive area, the Minister of Posts had to ensure, in compliance with government policy, that competitors were able to bid for Bundespost Telekom's monopoly services on fair terms. "In future it will come down to striking a balance between infrastructure and competition," said Schwarz-Schilling.

The granting of licenses for the degital D2 network for mobile radio, trunk radio, and for setting up private satellite networks has shown how quickly the new competitive scenario has taken shape and been accepted. So far, 14 licenses have been granted to private satellite operators, including four to foreign companies," said Scwarz-Schilling, adding: "Satellite communications are of exceptional importance in improving communication links between the older and the new laender. Therefore, owing to the to.MDBO/t.MDNM/ally inadequate earthbound facilities in the new laender, private network operators have been licensed to offer a telephone service by satellite. Eight firms have so far been granted permits." Licensees can supply telephone services in, to, and from the new laender until 31 December 1997, with the option to link their satellite networks to the Bundespost's public telephone network.

EC Commission Approves Competition Rules

92WS0051U Brussels EUROPE in English 12 Sep 91 p 13

[Unattributed article: "(EU) EC/Telecom/Competition: The European Commission Publishes the Guidelines for Its Policy Concerning the Application of Competition Rules in the Telecommunications Sector"]

[Text] Brussels, 11/09/1991 (AGENCE EUROPE)—As announced, the European Commission has approved and published in the Official Journal (n.C/233 of 6 September) a long detailed communication giving the "guidelines on the application of EEC competition rules in the telecommunications sector".

The text is for the attention of operators in this sector so that they might know what is legal and what is not legal in their agreements and in their behaviour in general.

The Commission objective is the development of efficient Europe-wide networks and services, at the lowest cost and of the highest quality, to provide the European user in the single market of 1992 with a basic infrastructure for efficient operation. The Commission reaffirms that liberalisation (to intensify competition) and harmonisation (to guarantee the network's uniformity and interconnectivity) must go hand in hand. Telecommunications operators must be allowed, and encouraged, to establish the necessary cooperation mechanisms, in order to create—or ensure—Community-wide full interconnectivity between public networks. This, however, must be done in compliance with competition rules and avoiding abuse on the part of those holding a dominant market position.

In the light of this objective, the Commission document specifies the forms of cooperation allowed or prohibited, from experience gained in different affairs in compliance with the Court of Justice decrees. Nevertheless, the Commission underlines that "these guidelines do not create enforceable rights" (point 10). The Commission firstly underlines that the competition rules (articles 85 and 86 EEC) apply to the ONP—Open Network Provision, and give the conditions of application of article 90, par. 2 (which justifies certain competition restrictions which may be imposed by States and not by enterprises). The Commission then gives its guidelines concerning the definition of the "relevant market".

The main part of the communication concerns the application of article 85 in the telecommunications sector (ban on agreements) and of article 86 (banning abuse of dominant positions). The Commission reviews the different categories of agreement: on the supply of installations, on prices, on technical norms and on the provision of services, relating to research and development, etc. It defines the notion and the conditions of abuse, recalling the cases where it has already had to intervene and the principles followed (for example, in the case of IBM).

The last parts of the communication concern the restructuring of telecommunications (notably deregulation and mergers between enterprises and the impact of international conventions —ITU [International Telecommunications Union], CAMTT [Telephone and Telegraph Administrations], CCITT [International Telephone and Telegraph Consultative Committee]).

The Commission reserves the possibility to modify the guidelines in the event of fundamental or repeated changes in the legal precedents or the regulatory, economic and technical context (point 11).

First East-West Fiber-Optic Link Approved

92WS0051Y Chichester INTERNATIONAL TELECOMMUNICATIONS INTELLIGENCE in English 16 Sep 91 pp 1, 3

[Unattributed article: "Denmark To Install First East-West Fibre-Optic Cable Link"]

[Text] The Ministries of Posts and Telecommunications (MPT) of the Soviet Union and the Russian Republic have given their approval for the first fibre-optic cable to be laid between the USSR and the West.

Telecom Denmark and GN Great Nordic are to share the 500 million Danish krone [DKr] investment in the 565Mbit/s link to be built between Copenhagen in Denmark and Kingisepp, near St. Petersburg (Leningrad). It will have a length of approximately 1,260km and include 11 submerged regenerators. The cable will be supplied by STC Submarine Systems of the UK under a contract worth US$65 million.

The system's capacity will be 16,000 circuits which will be used for telephone, fax, data and video transmissions between the USSR and Denmark. From Denmark traffic will be carried to other countries via Telecom Denmark's international channels. Within the USSR, traffic will be carried via microwave systems to St. Petersburg and Moscow, respectively. Cocom, which controls the export of high-tech goods with possible military application to Eastern Bloc countries, has so far prevented the extension of the cable from St. Petersburg to Moscow.

Telecom Denmark and GN Great Nordic said their investment in the project will be returned from traffic fees after the link is put into operation in mid-1993.

Thomas Duer, GN Great Nordic's Managing Director, said he was confident that the current Soviet upheaval will not affect the project and that both ministries want to see the project completed as planned.

The Danish team said the cable they will be installing is the first part of the planned Trans-Soviet Line—a cable which will stretch across Siberia to link Europe with Japan and Korea. They also said that a second major link, from Moscow via Sevastopol, in the Crimea, to Italy is also under discussion.

At the end of last year, Alcatel of France insisted that it had been awarded the contract to supply the first section of the T-S-L project. Under this contract, Alcatel will lay 250km of cable between the cities of Irkutsk and Ulan-Ude, just north of the USSR's southern border with Mongolia (*see ITI issue 274*).

PAL-Plus 16:9 Television Standard Due in 1995

91WS0549X Paris AFP SCIENCES in French 5 Sep 91 p 15

[Unattributed article: "Television: PAL-Plus To Replace PAL for Terrestrial Broadcassting?"]

[Text] Berlin—In addition to HD-Mac, which is to become the new European standard for high-definition television [HDTV] via satellite broadcasting, there is also a replacement standard for terrestrial broadcasting: PAL- [Phase Alternation Line] Plus, which offers high-quality broadcasts in the 16:9 "cinema" format.

Four television manufacturers—Philips, Grundig, Thomson and Nokia—have been working since 1988 on this new standard, which has the advantage of being compatible with PAL, the standard most utilized today.

At the Internationale Funkausstellung, the big consumer electronics exhibition now under way in Berlin, the principal television makers are reluctant to discuss the difference PAL-Plus will make in terms of improving the quality of television images.

But work on development of the new standard continues. Its technical criteria should be finalized in 1993, and broadcasting of programs in PAL-Plus is expected to begin in 1995. Some pilot programs are already being shown to Berliners at one of the smaller exhibition stands.

Officially, the manufacturers deny PAL-Plus is trying to steal the limelight from the D2-Mac [Definition 2 Multiplexed Analog Component] compatible televisions that were introduced with great pomp at the exhibition as the intermediate standard that is supposed to ensure a smooth transition to HD-Mac [High-Definition Multiplexed Analog Component].

France's Thomson and Germany's Grundig even say they see PAL-Plus as a "necessary complement" to D2-Mac and later HD-Mac, since it will stimulate sales of television sets and production equipment for the 16:9 format without hurting the television stations, most of which use terrestrial transmitters. So why are they so reluctant to talk?

Grundig's CEO [chief executive officer], Mr. Johann van Tilburg, gave the answer himself: It is a question of not further confusing the public, which is already somewhat perturbed by the complicated debate, in Brussels, between the TV manufacturers and TV stations over how to popularize D2-Mac programming.

The current draft European directive, still quite controversial, would require television stations that broadcast via satellite to offer their new programs in both D2-Mac and PAL formats. For the manufacturers, such a directive would mean rapid popularization of D2-Mac and technological dominance in a highly competitive market.

But for the television stations, the requirement to produce new programs in D2-Mac would impose heavy costs at a time when economic conditions are poor and they have already made substantial investments in the last few years to convert to PAL-format satellite broadcasting.

European High-Definition Television Developments Reported

91WS0471X Paris L'USINE NOUVELLE/ TECHNOLOGIES in French Jun 91 pp 60-66

[Article and interview with Eureka High Definition TV Project Vice President Michel Hareng by Thierry Lucas: "HDTV: The Final Technical Nuts and Bolts"—first paragraph is L'USINE NOUVELLE/TECHNOLOGIES introduction]

[Text] Having entered the HDTV race long after the Japanese, the Europeans are moving quickly. Their technological choices could enable them to take the lead. Michel Hareng, vice president of the Eureka HDTV project EU95, outlines the evolution of HDTV for the next 10 years.

Ever since the idea was first mentioned, there was always a doubt as to whether it would ever happen. Nevertheless, high-definition television's (HDTV) arrival on the market, with its large wide screen, its "cinema" quality picture, all enhanced by digital sound (like that of the compact disk) is now actually scheduled.

If all goes as planned, the new television will make its official consumer debut in 1995-97. Most of the HDTV chain should be ready by then (i.e., in commercial production), particularly with the launching of HDTV sets at an "acceptable" price and with the broadcasting of programs less restricted than the demonstrations offered to date.

A single figure should suffice to give some idea of just how much is at stake: More than 700 million conventional TV sets are installed throughout the world, and, consequently, likely to be replaced.... If you add the VCR's, cameras, video cameras, and all the studio and broadcasting equipment, you can see why the future video standard has generated enormous research and development efforts by the major manufacturers of consumer entertainment electronics in Japan, the United States, and Europe.

First off the block, in 1972, the Japanese (with powerful NHK leading the pack) developed the Muse HDTV system, and Sony, Matsushita, Hitachi, Toshiba... are concentrating on producing hardware at "competitive" prices. The television receivers recently launched by these companies sold at a price of approximately 150,000 French francs [Fr], including the Muse converter.

In 1986, the Europeans entered the competition with the Eureka EU95 project and managed to "deliver", in 4 years, a complete HDTV standard. This has the peculiar capability of permitting "smooth" evolution toward the new television, passing through two generations of mutually compatible systems. Currently, the major partners, particularly Philips and Thomson (who signed an R&D cooperation agreement), are beginning to apply the results of EU95. Thus, Thomson decided to invest massively in HDTV development: Fr9 billion through 1995, including Fr3 billion in government assistance.

Last February, Thomson presented the first compatible consumer high-definition Pal/Secam monitor with a wide 16/9 screen. Marketed at the price of Fr35,000 (the D2-Mac [Multiplied Analogue Components] converter and the antenna are sold separately), this receiver is not

yet "high-definition," but it has improved definition and a line doubler, making it possible to convert today's 625-line images into 1250-line images which will be the standard for European HDTV.

Likewise, next summer at the international expo in Berlin (IFA) Philips will introduce its own 16/9 receiver and D2-Mac, also based on studies conducted jointly within EU95.

In the United States, the situation remains uncertain, because several new television projects are in competition. These include that developed jointly by Zenith and AT&T, which is concentrating on fully digital HDTV, that of the Japanese NHK, a "super-NTSC" project (improved television at slightly higher cost), and a two-stage project for evolution toward high-definition. The FCC (Federal Communication Commission), the federal regulatory agency for audiovisual and telecommunications systems, is supposed to make a definitive ruling in 1993.

All these projects, to be successful, must be supported by innovations which involve the entire HDTV chain: cameras, studios, recorders, broadcasting systems (cable or satellite), and receivers. With a major part of the development devoted, of course, to the electronics. An HDTV receiver will probably contain more semiconductors than today's microcomputer!

But what differentiates these competing projects?

First, it should be pointed out that three television standards currently exist: PAL [Phase Alternation Line] (of German origin), SECAM [Sequential Color and Memory] (of French origin), and NTSC [National Television Standard Code] (used especially in Japan and the United States). Although incompatible, these three processes do share a family resemblance. The height-width ratio of the picture is 4:3, and each is made up of 625 lines, at a rate of 700 pixels per line. In HDTV, the number of lines per image is doubled (1,250), and each line has 1,000 pixels.

The conventional TV systems are also coded identically. The picture (divided into luminance and chrominance signals) and the sound are transmitted simultaneously, which causes interference—for example, clouds when luminance is detected as chrominance.

With the new European Mac standard for cable or satellite broadcast, the three signals are transmitted separately (they share a duration of 64 µs per scan line), and, furthermore, the sound is handled digitally. This is the intermediate standard, called "improved television," still 625 lines, but which can be received by a new 16/9 monitor or by a conventional 4/3 set equipped with a Mac converter.

For "true" high-definition, it will be necessary to wait for the HD-Mac standard (planned for 1995), which, this time, will have all the desired characteristics: 1,250 lines in 16/9 format, 1,000 pixels per line, and digital sound.

Compatibility with the intermediate standard will be guaranteed. All that will be necessary is to connect the receiver to an HD-Mac converter.

On the strength of this concept of compatibility (which also seems to be essential in the United States), the Europeans feel they have a "lead of several years" on the Japanese Muse system which is completely incompatible with current market standards. The competitors will also be separated by their capability of rapidly manufacturing equipment at competitive prices. And there, the battle is essentially technological and industrial.

Michel Hareng: "Our Trump: Compatibility"

[Lucas] How far along is the European high-definition television project?

[Hareng] The first phase of the European HDTV project, EU95, which began at the end of 1986, had as its objective to propose standards for production, transmission, and reception of high-definition images. In May 1990, the European standards resulting from this first phase were recorded by the International Radio Broadcasting Consultative Committee (CCIR) as a proposal for an international HDTV standard, on the same level as the Japanese project. These results were also embodied at the time of the IFA international expo which took place in Berlin in 1989, where a complete HDTV prototype chain was successfully introduced. From cameras to receivers, via an HD-Mac [High-Definition Multiplexed Analog Component] satellite link, the entire system met the standards defined in EU95.

This success also resulted in the evolution of the position of certain manufacturers and countries relative to this project which had begun in the midst of rather extensive incredulity.... The program has now entered a second phase, which is to end in December 1992. Its objective is to finalize the European project with a view to launching HDTV on the consumer market beginning in 1995-1997.

[Lucas] More specifically, what are the objectives of this second phase of the project?

[Hareng] CCIR work on HDTV is not finished. The EU95 project is supposed to contribute to it and to parallel it. In particular, the number of lines to visualize and the image frequency remain to be defined by the CCIR. These are, of course, important parameters.

On the other hand, certain equipment is not yet standardized. For example, the studio standard which we initially proposed is analog, whereas everyone currently agrees that the HDTV production standard will be digital.

However, phase two of EU95 includes an additional aspect. It proposes to promote the European HDTV system at the time of international events. High-definition rebroadcasts of the 1992 Winter and Summer Olympic Games which will be held in France and in

Spain will be part of the pilot applications of the project. Naturally, this presupposes having passed to a more advanced level of equipment development. In particular, some one thousand HD-Mac receivers will be manufactured for this purpose.

[Lucas] What is, right now, the major obstacle to launching HDTV on the consumer market?

[Hareng] In my opinion, it is the visualization of the images which currently constitutes the bottleneck in the HDTV chain. In fact, to completely appreciate the change to high-definition, it will be necessary to have a large screen: at least 1.2 or 1.3 m diagonal. The whole problem is to manufacture a receiver of this size, in a form and at a price suited to the consumer market.

Right now, with cathode ray tubes, it is possible to obtain approximately 1 meter diagonal. Thus, the HDTV compatible receiver placed on the market last February by Thomson has a 36" tube (93 cm diagonal) in the wide 16/9 format, which is very close to the current limits.

To go any further, it will be necessary to use a rear projection system. Externally, this is a conventional TV, however, it contains three tubes, one for each basic color, with the three "subimages" projected on the screen. The major partners in EU95 are developing such receivers with a 1.2- or 1.3-m screen. Another possibility involves front projection: HDTV then actually becomes a home cinema. However, I am skeptical about the success with consumers of a solution which presupposes reserving a whole room for this use.

[Lucas] And flat screens?

[Hareng] To resolve the problem of size, the ideal solution would be flat liquid crystal screens. Unfortunately, the LCD screens that we currently are able to manufacture are far from having the dimensions required for HDTV. In fact, these screens will not be available in series production for some fifteen years. But we are not going to wait until the year 2005 for HDTV.

On the other hand, I believe strongly in a projection or rear projection system using small liquid crystal valves—from 5 to 10 cm in diameter—which act as light modulators. This technology seems much more feasible in the short term than the 1 meter square flat screen.

[Lucas] What are the technical problems posed by high-definition cathode tubes?

[Hareng] The change to the 16/9 format, replacing the current 4/3, creates many problems in tube design. When tube size increases, it is essential to use increasing thicknesses of glass, so that it can "hold" the vacuum. But one of the major difficulties encountered in the development of a 16/9 tube involves the mask. This is a perforated metal part located on the inside surface of the screen, whose role is to channel the electrons emitted by the three guns—one per basic color—toward the corresponding points on the screen.

Well, the mask, which absorbs more than 80 percent of the power of the flow of the electrons, heats up and risks becoming deformed. In a receiver of the 4/3 format, in almost square in shape, this deformation is virtually isotropic. For a 16/9 screen, i.e., rectangular, the expansions are anisotropic. Furthermore, because the perforations which let the electrons pass are smaller in a high-definition mask, the power absorbed locally is greater. That is why several solutions based on materials resistant to temperature variations, especially Invar, are being studied within Eureka.

[Lucas] Will the production of the electron beam also have to undergo modifications?

[Hareng] Yes, because although the tube definition is linked to the distance between the perforations in the mask, it also depends on the diameter of the electron beam. Thomson developed electron optics which permitted halving the beam diameter.

Also, to obtain luminosity equal to that of conventional tubes, it is necessary to increase the flow of electrons without jeopardizing the service life of the cathode. We are also studying phosphors (the fluorescent substances which receive the electron beam) which are better suited to the constraints of HDTV.

[Lucas] What is the role of electronics in the development of HDTV?

[Hareng] All the high-definition TV equipment must be able to perform complex signal processing functions in real time. Quantitatively speaking, one should know that a high-definition image in the 16/9 format represents five times more data than a conventional image, and that it still must all be processed in 1/50 of a second.

Also, the very principles adopted for HDTV require components capable of performing more complex processes than in conventional TV. Take for example the case of the HD-Mac converter included in the receiver: It must reconstruct the starting image, which is produced in 1,250 lines, from a signal transmitted in 625 lines, and digital assistance data transmitted in parallel which permit it to perform this reconstruction.

This transmission on only 625 lines, made necessary by the limited pass band of the transmission channels—approximately 10 MHz—also permits reception of the image by a Mac receiver with conventional definition. In this case, the digital data is ignored and, of course, the image is not in high-definition.

[Lucas] What is the technological level of HDTV?

[Hareng] If we want to arrive at prices which really suit the consumer market, it will be necessary to produce components with 0.5 micron engraving, a technology which should be operational by 1995-1997. Because the price of circuits depends basically on the surface area of the semiconductor used to implement a function and not on the complexity of the function.

[Lucas] What role are the European microelectronics research projects playing in this development?

[Hareng] In the Jessi project, there is a section devoted to applications which permits validation of the results obtained by the basic programs. One of these applications, in which Siemens, Philips, and Thomson are cooperating, is a set of integrated circuits for reception of the HD-Mac signal.

[Lucas] Will we have to wait for this new generation of circuits before industrial production can begin?

[Hareng] A demonstration product, even one manufactured in a small series, must not be confused with a truly commercial product. For example, for the pilot application of the next Olympic Games, the HD-Mac decoder will include about fifty ASIC circuits. That is relatively few compared with the Japanese Muse converter which has more than a hundred, but it is too many if the goal is an acceptable price for the consumer market. Ultimately, the objective is to end up with a converter operating with only 5 to 10 circuits.

[Lucas] How far along are the high-definition cameras?

[Hareng] Right now, most HDTV cameras have tubes. All programs filmed in high-definition have been filmed with this type of equipment. However, it is obvious that all producers of conventional television (625 lines) are currently using CCD cameras, much lighter and much easier to use. The basic difficulty, in transposing this technique to high-definition, is to obtain an acceptable production yield on 1,920 x 1,250 pixel matrices. However, the HDTV camera of the future will of necessity be of the CCD [charge coupled device] type, and the HDTV videocameras are already in preparation...for the 21st century.

[Lucas] How are recording techniques going to evolve to adapt to the new television standard?

[Hareng] As for video recorders, a distinction will have to be made. For studio equipment, full definition magnetic recording will require a new design for heads, tapes, and micromechanics of the camera.

In effect, this will involve recording five times more data than with conventional video. This will be accomplished, on the one hand, by reducing the width of each track on the tape, and, on the other, by increasing the speed of the magnetic head on the tape.

For the consumer market, there will be two stages, exactly as occurred with conventional video with VHS and super VHS. This means that there will first be "improved" definition video recorders, with twice the current definition. But it will probably be necessary to wait until the end of the decade for video recorders that will reproduce full high-definition. These video recorders will most likely be digital.

[Lucas] Will the optical disk have a place in the HDTV chain?

[Hareng] It is also a possible medium. Philips is, in fact, developing a video disk for the HD-Mac standard. Also, there is the erasable-writable optical disk which could provide competition for the video recorder. But there is significant obstacle to its use: the recording length. Now, a conventional optical disk contains approximately 45 minutes of programming. In high-definition, this would only be about 15 minutes.... Of course, there are ways to increase data density on disks. For example, use of a laser with a shorter wavelength, a blue laser, is under consideration.

[Lucas] How is the switch to mass production of the equipment going to be handled?

[Hareng] The key is in production techniques. Production methods enabling achievement of the performances defined by EU95, at a reasonable cost, must be developed.

For example, we know that we will need multilayer printed circuits. This technology is conventional in professional electronics, but it does not currently exist in consumer electronics because it is too expensive. The same problem arises for the SMC's [surface mounted circuits], hybrid circuits, etc.

[Lucas] What are the advantages of the European HDTV standard in international competition?

[Hareng] The real question is: Given the investments which it represents, is it conceivable to broadcast high-definition programming to a nonexistent audience? Only NHK can permit itself that luxury! The idea of compatibility with existing television, which we adopted from the very beginning, in contrast with the Japanese Muse project, is an essential advantage for launching HDTV. Furthermore, Japanese broadcasters are beginning to demand a compatible approach....

FINLAND

Europe's First Frame-Relay Service Launched

92WS0051W Chichester INTERNATIONAL TELECOMMUNICATIONS INTELLIGENCE in English 2 Sep 91 pp 1, 3

[Unattributed article: "Europe's First Public Frame-Relay Service"]

[Text] StrataCom, Digital Equipment Corporation and Telecom Finland are claiming to have launched Europe's first frame-relay service. The service, which provides subscribers with frame-relay access speeds of between 64Kbit/s and 1Mbit/s initially, became available on August 19th.

Telecom Finland views the introduction of the service as a means of providing subscribers with virtual private networks, according to Frame-Relay Manager, Juha Heinanen. Access at 2Mbit/s will be available by the end

of this year. A spokesman described the service as a "part public, part managed network, a bit of both, a sort of virtual private network."

StrataCom says that the introduction of the new service is an extension of Telecom Finland's LAN [local area network] interconnection service, DataNet, which was introduced during 1989 and which is based around CISCO [Compass Integrated System Compiler] Systems router technology for both the network backbone and CPE. This first service is a multi-protocol TCP/IP [Transmission Control Protocol/Internet Protocol] based routing network.

The frame-relay enhanced DataNet network is being implemented using five StrataCom IPX fast packet switches, each of which can host up to 120 frame-relay ports. StrataCom will supply, through DEC, its world-wide marketing partner, a number of additional IPX systems later this year.

Telecom Finland says that while voice transmission is technically feasible over the frame-relay network at present, it is not part of the current customer offering and "plans in this area are still open". If voice services are to be offered to customers in the future, Telecom Finland says, the frame-relay service will most definitely be separate from its ISDN service.

Data access by customers is at Layer 2 of the OSI [Open Systems Interconnection] reference model, allowing any network layer protocols or bridging to interconnect LANs to be used. Other equipment, such as X.25 switches and SNA communications controllers can be connected over the frame-relay backbone, CISCO Systems' routers have undergone considerable software development to enable them to interwork with the frame-relay service. CISCO said that the use of its frame-relay enhanced routers in the network will bring "the benefits of added performance to users of cisco-supported protocols over frame-relay, including TCP/IP, DECnet, OSI, Apple Talk and Novell IPX."

CISCO routers are the most common CPE [central processing element] among DataNet's estimated 200 users and can now be software-upgraded to operate in the new frame-relay project at Telecom Finland.

Under the DataNet service, Telecom Finland provides customers with the design, implementation and management of his/her network. The DataNet networks are managed seven-days-a-week and 24-hours-a-day, using SNMP-based network management centralised in Tampere. Customer networks can be controlled to customer router level or even beyond to the customer LAN.

With the router DataNet networks, customer network speed varies from 19.2Kbit/s to 100Mbit/s. The networks support TCP/IP, DECnet and ISO/IP. IBM connectivity is provided by Source Route Bridging of Token Ring LANs. International interconnection of LANs is

via the InfoLAN service operated by Infonet, which worked closely with Telecom Finland during the development of InfoLAN.

Telecom Finland is also experimenting with high-speed LAN interconnection using Metropolitan Area Network technology from Alcatel SEP [European Propellent Company], the Finnish subsidiary of the French company which has taken worldwide marketing rights to technology originally developed by Telecom Australia subsidiary, QPSX Communications.

Telecom Finland says that it sees the Distributed Queue Dual Bus/MAN technology as an efficient way to offer switched services of LAN interconnection in metropolitan areas in a way that makes it possible to use the fibre-optic network efficiently—compared with frame-relay, "we see DQDB as a more fibre-oriented technology."

Additionally, Telecom Finland sees frame-relay as more practical for long-distance connections than DQDB at present and it expects 34Mbit/s interfaces to become available for frame-relay soon. It says it is aware of laboratory prototypes with still higher speeds, indicating that transmission speed would not be a factor to differentiate DQDB and frame-relay. Cost is today the most important factor when evaluating the different technologies and there frame-relay has a clear advantage.

MAN [metropolitan area network] type services, such as the interconnection of FDDI networks, are being offered as part of the normal DataNet services. Telecom Finland says that it is still waiting for DQDB products to reach full technical maturity and reasonable level of costs and that it will introduce DQDB-based products into its network when these costs are fulfilled. "We are continuing to co-operate with the leading vendors on these matters," the company said.

FRANCE

Ariane Rocket Launched With Intelsat Satellite

PA2910234391 Paris AFP in Spanish 2314 GMT 29 Oct 91

[Text] Kourou, French Guiana, 30 Oct (AFP)—The European Ariane rocket, with the Intelsat V1-F1 satellite on board, was launched at 2308 GMT on 29 October from the Kourou Space Center in French Guiana.

On its 47th mission, the European rocket has to place the communications satellite in an orbit with an apogee of 35,934 km, a perigee of 200 km, and an inclination of 7 degrees.

Further on Launching of Ariane Rocket

PA3010020791 Madrid EFE in Spanish 0022 30 Oct 91

[Text] Kourou, French Guiana, 29 Oct (EFE)—In its 47th launching from the Kourou space center, the European Ariane rocket placed the "Intelsat VI F1" communications satellite into orbit. Sources at the center and from the Arianespace organization have said that the launching was highly successful.

The satellite separated from the rocket 22 minutes and 37 seconds after the rocket was launched from the space center at 2008 (2308 GMT). The rocket placed the communications satellite in a temporary orbit with an apogee of 35,934 km, a perigee of 200 km, and an inclination of seven degrees, according to the same sources.

The "Intelsat VI F1" belongs to the fifth and last generation of civilian communications satellites designed by the organization that carries the same name.

In this 47th launching, the most powerful of the Ariane rockets was carrying only one satellite because of its great weight: 4,330 kg on takeoff.

With a height of 11 meters and a diameter of 3.6 meters, the Intelsat VI F1 is the largest existing satellite. It can handle 120,000 telephone conversations, television broadcasts, and other services simultaneously.

Its system of directional antennas allow the satellite to cover the entire American, European, and African continents, as well as to serve other smaller areas by means of a reconfiguration.

Its capacity is 500 times greater than that of the first satellite placed into orbit in early 1965 by Intelsat, an organization that encompasses 121 countries and a network of 800 receiving stations throughout the world. The satellite has a lifespan of 13 years.

The study and construction of the five currently operational Intelsat satellites was carried out by seven countries (Germany, France, Great Britain, the United States, Canada, Italy, and Japan).

With this launch, Ariane has put three of the five "Intelsat Vi" satellites into orbit. The first was launched in October, 1989, and the fourth on 15 August 1991.

The second and the third were placed into orbit by U.S. "Titan 3" rockets from Cape Canaveral, Florida in 1990, but one of them was unable to complete its operations and is circling on a base orbit, so it will have to be recovered by a spaceship in February, 1992.

LETI Pursuing Micropoint TV Technology

*92WS0002X Paris AFP SCIENCES in French
12 Sep 91 pp 19, 20*

[Unattributed article: "The French in the Race to Flat-Panel Displays With Micropoint Technology"]

[Text] Grenoble—On 23 August, in Japan, when Grenoble researchers publicly introduced a flat-panel TV screen measuring 10 by 12 cm, weighing 100 grams and having a thickness of 2 mm, they showed that they were full-fledged contenders in the race among large countries to offer to the public the television of tomorrow, which will hang from a wall like a picture. Three technologies are currently competing to create and industrialize this television of tomorrow:

— Liquid crystals (like those of digital watches), the technology with the largest research budgets, especially in Japan; but these displays are difficult and costly to make. They do not like temperature changes and have a slow response time.

— Plasma displays: their colors are not very bright and their service life is short.

— Micropoint displays: a technology under development which, according to the Grenoble researchers, needs three more years of research, but would be less costly and more reliable than the other two.

It was in 1983 that a researcher at the Laboratory for Electronics and Data Processing Technologies (LETI) of the Atomic Energy Commission (CEA), Mr. Robert Meyer, became interested in the American micropoint technology designed by Capp Spindt under a space and defense research program.

It was the LETI, however, that had the idea of using this electron source to manufacture a flat-panel display where millions of guns (the micropoints) fire electrons at a glass plate covered with a film of phosphorus, which forms the display. This technology is very close to that of integrated circuits. Twelve patent applications have been filed, but the display colors still have to be improved and its size increased.

The French company Thomson financed the project from 1988 to 1990, with 20 or so LETI researchers, but although it acknowledged that the technology is very interesting, it gave up for lack of means.

Since then, the project leader at the LETI, Mr Jacques Duchene, has been looking for some 100 million French francs to finalize the development of the display. "It's a huge wager, but if we can develop the process and its industrialization, we can totally revolutionize the world of flat-panel displays for television and portable computers. This technology may be as good as gold."

He made the round of manufacturers worldwide, and the Japanese are among the candidates. "No researcher in a French public laboratory wishes to see his work leave for Japan, and the Ministry of Research would probably say no. But as the Japanese remain the best for industrialization, we can try to set up a partnership with them, with (why not?) a factory in France," he added.

France Telecom Reorganization Described

92WT0021A Paris LE FIGARO (LE FIG-ECO supplement) in French 18 Oct 91 p 5

[Article by Y. le G.: "France Telecom Creates Software and Services Unit"]

[Text] The France Telecom group is reorganizing its software and value-added service activities (electronic mail, electronic funds transfer, site monitoring, data security systems, etc.). Cogecom (with 12.4 billion French francs [Fr] in turnover and Fr1 13.5 million in net profits in 1990), which serves as an umbrella for France Telecom subsidiaries (TDF, Transpac, EGT, Telesystemes), is creating FTLIS [France Telecom Software and Service Integration], a holding company capitalized at Fr1 billion, to take in the money-losing Telesystemes computer services companies, SCBF—which France Telecom exploited to strengthen its position in Spain and Italy—and 10 of Cogecom's 19 ownership positions in other companies.

The computer services company Ibsi (in which Cogecom owns a 40 percent share), Eucom (the joint venture company set up by France Telecom and Deutsche Bundespost Telekom), and Edival (whose shareholders are Cogecom, Bouyghes (40 percent) and Cap Sesa (17 percent)) will become part of the new structure. FTLIS will have consolidated turnover of between Fr3-4 billion this year.

Competition

This restructuring shows the growing role of software and value-added services in the strategy of telecommunications operators. "In an increasingly competitive world, all the operators are going to offer software providing more intelligent services and networks. Software expertise is essential if we are to offer information transmission and processing that is tailored to the needs of the big companies," explains Michel Huet, Cogecom general manager.

Over the years, France Telecom has built up its own computer services company, Telesystemes, while using the Cogecom holding company as its secular arm to invest—either alone or with partners—in new telecommunications services for business. But the French utility itself is no longer going to try to write all the programs the system will need to outdistance its competitors. "We're not going to try to offer everything. Our objective is not to become Europe's biggest computer services company. Efficiency requires us to work with competitive companies that are in contact with the market." This explains its strategy of acquiring interests in, and forging partnerships with, a few select companies. For example, over some years France Telecom has developed very close ties with Cap Sesa, the Cap Gemini Sogeti subsidiary. The French utility also maintains special ties with major customers such as the banks and Bouyghes in order to develop services adapted to a particular category of customers.

At the same time, France Telecom is moving ahead on restructuring its Telesystemes subsidiary (Fr1.85 billion turnover in 1990), which is having serious problems. As a direct consequences of steps already taken, losses in 1991 will be less than those in 1990. Eventually the services company expects to see net profits in the 5 percent range.

GERMANY

Communications Consortium for East Europe Founded

91MI0515X Bonn WISSENSCHAFT WIRTSCHAFT POLITIK in German 4 Sep 91 pp 7-8

[Text] Three firms in the communications sector have now formed EuroDATA GmbH in Berlin; the three firms, each with a one-third stake, are BB-DATA GmbH, a subsidiary of Berliner Bank AG, DETECON Deutsche Telepost Consulting GmbH, an affiliate of Deutsche Bundespost TELECOM in Bonn, and Deutsche Aerospace AG in Munich. The purpose of this "satellite communications and securities services company" is to set up and market efficient communications networks on the western and eastern European markets, providing both data transmission and special voice services.

Following the unification of the two German laender, it quickly became clear that one of the major obstacles to building up the economy in the five new laender was the inadequate flow of communications. Satellite communications will now provide a prompt remedy; the new firm has already received a large number of orders to this end. Since its formation, the EuroDATA project team had already installed over 50 satellite ground stations, mainly in the five new laender and eastern Europe, including Moscow and Prague. Very small aperture terminal (VSAT) technology, which operates with small satellite ground stations is used. The receiver dish is normally 1.8 meters in diameter.

Philips Acquires Telecommunications Contracts

92WS0051Z Chichester INTERNATIONAL TELECOMMUNICATIONS INTELLIGENCE in English 9 Sep 91 p 3

[Unattributed article: "Three Contract Awards for Philips"]

[Text] Philips' Public Communication Systems Division in Nurnberg, Germany has recently been successful on home ground with the award of three contracts, two of them from Deutsche Bundespost Telekom (DBT).

The first DBT contract, worth an undisclosed nine-figure sum, is for the delivery of tss digital switching systems to provide Automatic Call Distribution (ACD) facilities.

Under the contract, Philips will install over 200 operator services systems for ACD in the Telekom service, known internally as PLA-TS. With ACD, the calls arriving via

special service numbers are automatically transferred to the next free operator position of the corresponding service group.

The ACD system will also be used for internal communication within the Telekom service and enables, via the public network, access to and from private automatic branch exchanges.

Philips is also supplying 150 ISDN videophones to DBT for its videophone service, expected to be launched this Autumn. Philips' 'Teleview' ISDN videophones can be used with ISDN basic rate access and ISDN [Integrated Services Digital Network] private automatic branch exchanges (PABXs). In the same way as the ISDN telephone, the Philips videophone has a standardised interface and operates with a transmission rate reduced to 64Kbit/s for the full-motion colour picture and a further 64Kbit/s for speech transmission. In another version for in-house applications, 112Kbit/s are used for video transmission and 16Kbit/s for speech transmission.

Awarded by Vogelsberg GmbH, the third contract involves the installation of a transmission link to monitor systems at the Vogelsberg wind energy farm. The 2Mbit/s transmission system will link Lissberg and Crainfeld, via Gedern, Ober-Seemen and Hartmannhain.

The farm comprises nine wind power systems connected to the network control centre in Friedberg via a digital multiplex transmission unit from Philips. The Time Division Multiplex (TDM) system, PCM30P, and the drop/insert and cross-connect system, DICC2, have been installed.

IRELAND

Telecom Eireann Considering Privatization

*92WT0017A Dublin IRISH INDEPENDENT
in English 13 Sep 91 p 3*

[Article by Tim Hastings: "Telecom Row: Dept Move Is Defended by Brennan"]

[Text] Communications Minister Seamus Brennan last night defended as "good business practice" discussions which senior department officials held with Telecom Eireann prior to its board commissioning studies into privatisation.

Following routine informal discussion, the semi-State company had decided to undertake an exploratory study into future equity options, competition, liberalisation, deregulation issues and EC policy, he said.

Earlier, the largest union in the company, the Communications Workers' Union (CWU), expressed "outrage" at the revelation about the studies.

However, the minister said no formal consideration of the issue by the government had yet taken place.

Mr. Brennan will receive a copy of the report once the board has considered it and he will then decide whether or not to put proposals to government according to a department statement.

A spokesman for Telecom Eireann would not comment yesterday after reports that the Investment Bank of Ireland and National City Brokers had been asked to carry out a study into the implications of privatising the company.

CWU general secretary David Begg said there was no justifiable case for privatising Telecom, which is valued at over £1bn, and insisted that the money did not exist within the economy to buy it.

He warned that the likely consequence of privatisation would be that a strategic State enterprise would come under foreign control.

"It is an outrage that at a time when the country is reeling from the exposures of the Greencore scandal, the financial institutions who were the advisers on privatisation are being commissioned to advise on privatisation of the most valuable asset in the State sector," he said.

He highlighted the fact that during the negotiations on the Programme for Economic and Social Progress the ICTU had received an assurance that Telecom would not be privatised.

Labour Party Communications spokesman Toddy O'Sullivan said the disclosure that Telecom chairman Michael Smurfit was preparing the company for privatisation came as no surprise to his party.

Earlier this year Finance Minister Albert Reynolds had publicly stated that Telecom would not be privatised, "but this assurance is of the same currency as government assurances in relation to the Sugar Company debacle."

ITALY

ITALCABLE's Monopoly Threatened

*92WT0019A Rome LA REPUBBLICA in Italian
12 Oct 91 p 53*

[Article by Gianfranco Modolo: "Telecommunications, End of the Monopolies"—first paragraph is LA REPUBBLICA introduction]

[Text] ITALCABLE will reduce its rates. For SIP [Italian State-owned Telephone Company] too, the risks of competition are on the way.

Geneva—Competition, a genuine one with a capital C, is coming even to the Italian communications sphere, one that has been pointed to by the EEC as being among the least open among those of the Twelve. ITALCABLE, a

STET [Turin Telephone Finance Company] company which until a short time ago controlled intercontinental traffic as a monopoly, has had to take threatening competitors into account for some months now. These latter—a few big fish like AT&T, IBM, British Telecom, and Mercury, together with many small ones—are taking advantage of the fact that the rates are higher for those who call abroad from Italy than for those calling in the other direction. They are coming to large Italian users, multinationals, banks, and commercial companies and are offering telephone service to foreign countries at the prices in effect beyond the frontier. Thus ITALCABLE, which has already reduced its rates, will probably have to make them more competitive again, with undoubted benefits for the accounts of its clients but with some problems for its own.

As can be seen from the statements made here at "Telecom '91" by world telephone figures, technological progress and progressive liberalization are making big openings practically everywhere. "After the AT&T monopoly was broken up in 1984," states William McGowan, president of MCI, a private company which handles long-distance traffic, "American rates went down by 45 percent. A larger number of operators speeds up technological change, reduces costs, and offers more services to customers." The director of Siemens telecommunications, Erwin Hartmann, echoes this: "Competition is going to be continually fiercer." And Pierre Suard, president of Alcatel, does not hesitate to predict that there will be problems for the smaller operators and for those slower to react to innovations. The quotes we have reported are not those of impartial speakers: About 700 trillion lire per year is spent in the world to communicate by telephone; by now the telephone has become the third item in the world economy after energy and food.

A good part of this amount, almost 200 trillion, goes to the constructing enterprises—not more than about 10 large world groups—under the form of contracts for new installations. But the competition does not affect just the producers, it could overturn the operators also, that is, the various SIP's scattered around the world which have managed telephone traffic up to now undisturbed. Nobody is thinking of destroying them, of driving them off the scene, but many think that if they do not act quickly their importance on the international scene will be considerably reduced. In fact, technological progress is making available services of high added value (mobile telephones, video conference installations, data transmission, etc.) which ensure high profit margins. Industrial groups which have not had much interest in telecommunications in the past, such as General Motors, Mannesmann, and IBM (even though the latter tried to enter the sector with Rolm and subsequently left), and which think they will find interesting prospects for profit, are directing their attention to these new market segments that are growing every year at rates decidedly higher than those of normal traffic.

If operators are not capable of reacting they will have to deal with a future that is not promising: They will lose their most profitable activities and will control only voice traffic, the one that is least profitable because it serves the general public and is subject to political pressure, and they will witness the growth of more aggressive and determined new arrivals. This explains why strong appeals have been raised from Geneva to slow down the push for "deregulation." "We now know that the epoch of the monopolies is over," concedes Haruo Yamaguchi, president of the world's largest operator, the Japanese Nippon Telephone and Telegraph, "but it is necessary to introduce a minimum of regulation." STET president Biagio Agnes is asking for the creation of an international company within the EEC to manage long distance traffic together and to prevent episodes like that of British Telecom and France Telecom, the SIP equivalents in France and England that are threatening ITALCABLE's market. Up to the present their appeals have been listened to; the game is being conducted by the prophets of extreme liberalization.

NETHERLANDS

Philips' HDTV Developments Presented

92WS0051V Chichester INTERNATIONAL TELECOMMUNICATIONS INTELLIGENCE in English 16 Sep 91 p 4

[Unattributed article: "Philips' HDTV/SDH Developments"]

[Text] Philips has announced a system for the transmission of HDTV [high-definition television] and a new SDH [synchronous digital hierarchy] compatible digital system for transmission of TV, audio and data transmission at 140Mbit/s.

Philips' system for the transmission of TV and video programmes using the new HDTV standard is based on the new HD MAC [High-Definition Multiplexed Analog Component] transmission standard.

Philips recently demonstrated HD MAC transmission via 140Mbit/s using its encoding procedure at the International Audio and Video Fair in Berlin.

Philips' encoding and transmission technology can also be used to convert HDTV signals for digital transmission in existing telecommunications networks via 140Mbit/s channels. After the 140Mbit/s signals have been decoded on the receive side, the picture appears on the HDTV screen.

This means that digital signals can be transmitted from the TV station via cables or satellites to the TV receiver. The digital-to-analogue conversions, which reduce the transmission quality, become superfluous. The Broadband Distribution Network BK450 from Philips makes it possible to transmit HD MAC signals directly to the cable TV subscribers via BK distribution networks.

Philips' new SDH compatible DIMOS TV transmission system transmits TV channels in studio quality on

network level 1. This includes the exchange of programmes between different TV broadcasting authorities and between TV studio and transmitter. In combination with the synchronous digital transmission technology, DIMOS can be used for feeding signals to the broadband distribution networks at the highest distributor level. With the DIMOS transmission system, PAL, NTSC, SECAM or HD MAC standard TV programmes can be transmitted. Signals with a bandwidth of 10Hz to 8.4Mhz, via an analogue input—and YUV signals, via a digital input—can also be transmitted. Additionally, DIMOS offers four audio channels with a bandwidth of 40Hz to 15KHz, four 64Kbit/s data channels and up to three 2,048Kbit/s data channels.

The digital signals are transmitted at a total bit rate of 139,264Mbit/s on copper coaxial cables or fibre-optic cables. The maximum range of transmission without repeaters is approximately 60km, enabling it to be used in long-distance networks.

TURKEY

Radio, TV Transmitters Inaugurated

TA2610064791

[Editorial Report] Ankara Turkiye Radyolari Network in Turkish at 0530 GMT on 22 October reports: "The Mugla Fethiye FM radio station that will relay Radio-1, Radio-3, and Radio-4 transmissions has been inaugurated." It adds: "Also, the following TV-2 relay stations have become operational: Cagargan, Emecik, and Esenkaya stations for the Tavas, Cameli, and Kale districts in Denizli respectively; the Siraselviler station in Ermenek, Karaman; and Akgedik station in Feke, Adana."

At 2100 GMT on 22 October, the same radio reports: "The following television relay stations have been inaugurated: TV-1 stations in Bademli and Dededag in Denizli and Yukselen in Konya, a TV-1 and TV-2 relay station in Ceylanli in Hatay, a TV-1, TV-2, and TV-3 relay station in Beykoz in Istanbul, and a TV-1, TV-2, and TV-4 relay station in Marmaris in Mugla." It adds: "FM radio stations have become operational in Finike in Antalya and Ermenek in Karaman. They will relay Radio-1, Radio-3 and Radio-4 transmissions."

The same radio reports at 0530 GMT on 24 October: "TV-1 stations in Kayseri's Amsakozu, Korduzu, and Bilgiler; Sinop's Hellali; Kastamonu's Daglik; Antalya's Uzunoz; and Burdur's Kocaaliler quarters have been commissioned."

At 2100 GMT on 25 October, the same radio reports: "The Esenyurt TV-2 relay station in Erzurum, the Kagliktepe TV relay station in Ankara, the Kastamonu TV-3 relay station, and the Idis TV-4 relay station in Nevsehir have become operational."

Television Relay Stations Inaugurated

TA0211070391

[Editorial Report] Ankara Turkiye Radyolari Network in Turkish at 1100 GMT on 26 October reports: "The TV-1 relay stations in Erzurum's Tuysuz, Yesilbaglar, and Ilica regions, and the TV-2 relay stations in Erzurum's Cat and Kocaeli's Hereke regions have become operational."

At 1100 GMT on 27 October, the same radio reports: "The TV-1 relay stations in Akcaova in Mugla's central district, in Bozarmut in Yatagan District, in Kisla in Isparta's central district, in Ulukoy in Afyon's Dinar District, in Yaglitas in Adana's Pozanti District, and in Saltim in Gaziantep's Nizip District have become operational."

At 2100 GMT on 28 October, the radio reports: "TV-1 relay stations have been inaugurated in Egridir in Isparta; Finike in Antalya; Mecitozu in Corum; and Pinarpasi in Kayseri."

At 2100 GMT on 30 October, the radio reports: "The TV-1 relay station in Sivas' [name indistinct] area and the TV-2 relay stations in Yozgat's Kisla, Kiriklale's Sarikaya, Hatay's Aktepe, and Antalya's Altinyaka regions have become operational."

At 2100 GMT on 1 November, the radio reports: "TV-1 and TV-2 relay stations were commissioned in Giresun's Dikmentepe and (?Gilisi) quarters. TV-2 and TV-3 relay stations were also commissioned in Istanbul's Gaziosmanpasa, Bolu's Yigincak, Zonguldak's Ormanli, and Trabzon's Ozdil quarters."